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February 1994



**US Army Corps
of Engineers**

Construction Engineering
Research Laboratories



(2)

Environmental Compliance Assessment System (ECAS)

Wisconsin Supplement

U.S. Army

In response to the growing number of environmental laws and regulations worldwide, the U.S. Army has adopted an environmental compliance program that identifies compliance problems before they are cited as violations by the U.S. Environmental Protection Agency (USEPA).

Beginning in 1985, Major Army Commands (MACOMs) were required to conduct comprehensive environmental assessments at all installations on a 4-year cycle. The installations must also conduct a mid-cycle internal assessment. Because each MACOM was developing a separate assessment system, the Army mandated, through Army Regulation 200-1, one unified Army-wide assessment mechanism. The resulting system combines Federal, Department of Defense (DOD), and Army environmental regulations, along with good management practices and risk management information, into a series of checklists that show (1) legal requirements and (2) which specific items or operations to review. Each assessment protocol lists a point of contact to help assessors review the checklist items as effectively as possible. The Environmental Compliance Assessment System (ECAS) manual incorporates existing checklists from USEPA and private industry.

The Wisconsin Supplement was developed to be used in conjunction with the U.S. ECAS manual, using existing Wisconsin state environmental legislation and regulations as well as suggested management practices.

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FOREWORD

This work was performed for the U.S. Army Environmental Center (USAEC), under Military Inter-departmental Purchase Request (MIPR) number 1223, *Environmental Compliance Assessment System (ECAS)*, dated 5 August 1993. The USAEC technical monitor was Curt Williams, SFIM-AEC-ECC.

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NOTICE

This manual is intended as general guidance for personnel at certain U.S. Army installations. It is not, nor is it intended to be, a complete treatise on environmental laws and regulations. Neither the U.S. Government nor any agency thereof, nor any of their employees, makes any warranty, expressed or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information contained herein. For any specific questions about, or interpretations of, the legal references herein, consult appropriate legal counsel.

Wisconsin Supplement

The Wisconsin ECAS Supplement contains the protocols necessary for determining compliance with Wisconsin environmental requirements. This manual is a supplement to the U.S. ECAS Manual; it does not replace it.

The following Wisconsin agencies have responsibility in the areas indicated:

- Department of Emergency Government, (phone 608-266-3232) is the reporting agency for Title III release reporting.
- Department of Agriculture, Trade, and Consumer Protection, is responsible for pesticide regulation.
- Department of Industry, Labor, and Human Relations (ILHR), is responsible for underground storage tank regulation, above ground tank regulation, and hazardous materials management.
- Department of Natural Resources (DNR), the following bureaus and divisions within the DNR are responsible for the indicated areas:
 - Division of Environmental Quality, handles all environmental programs.
 - Bureau of Air Management, manages the state new source performance standards and the regulation of hazardous emissions of asbestos, beryllium, and mercury. The U.S. Environmental Protection Agency (USEPA) Region 5 has the authority for permits under the prevention of significant deterioration programs.
 - Bureau of Solid Waste Management, manages the state's solid waste, hazardous waste, polychlorinated biphenyls (PCBs), infectious waste, and waste oil recycling programs.
 - Bureau of Wastewater Management, has the authority to run the Federal National Pollutant Discharge Elimination System (NPDES) permit program for all facilities. The Bureau manages the state's water quality standards.
 - Bureau of Water Supply, is responsible for drinking water and drinking water supply sources.
 - Bureau of Water Regulation and Zoning, is responsible for wetlands, pier construction, dredging shoreland, and floodplain zoning.
 - Division of Resource Management, Bureau of Endangered Resources, handles endangered species management.
- Department of Transportation, Division of Motor Vehicles is responsible for vehicular noise requirements. The Division of State Police is responsible for hazardous material transportation.
- Historic Society of Wisconsin, Division of Historic Preservation, is responsible for preservation activities within the state.

METRIC CONVERSION TABLE

| | | |
|-------------------|---|--------------------------|
| 1 in. | = | 25.4 mm |
| 1 ft | = | 0.305 m |
| 1 kip | = | 4448 N |
| 1 psi | = | 6.89 kPa |
| 1 psi | = | 89.300 g/cm ² |
| 1 lb | = | 0.453 kg |
| 1 lb/h | = | 0.126 g/s |
| 1 cu ft | = | 0.028 m ³ |
| 1 mi | = | 1.61 km |
| 1 ft ² | = | 0.093 m ² |
| 1 gal | = | 3.78 L |
| °F | = | (°C + 17.78) × 1.8 |
| °C | = | 0.55(°F-32) |
| 1 yd | = | 0.9144 m |
| 1 Btu/lb | = | 0.556 cal/g |
| 1 Btu/h | = | 0.2931 watts (W) |

SECTION 1

CLEAN AIR ACT (CAA)

Wisconsin Supplement

SECTION 1

CLEAN AIR ACT (CAA)

Wisconsin Supplement

Definitions

These definitions were obtained from the following Wisconsin statutes and regulations:

- Wisconsin Administrative Code (WAC) Sections NR 400.02, 404.03(2), 406.02, 407.02, 415.02, 419.02, 420.02, 422.02, 423.02, 429.02, 439.02, 440.02, 440.27(1), 440.28(3)(a)(1), 440.285(2), 440.285(3)(a)(1)(g) through (h), 440.56(2), 440.642(2), 440.68(2), 445.02, and 446.02
 - Wisconsin Statutes Annotated (WSA) Sections 144.30, 144.39(1)(a), and 144.39(2)(a).
- **Air Quality Control Region (AQCR)** - an area designated by the Department for implementation of a plan to maintain or achieve air standards on a regional basis; includes both interstate and intrastate regions.
 - **Affected Facility** - any stationary source to which a standard or requirement set out in any of the following sections of this manual applies:
 - Sewage Sludge Incineration and Drying
 - Wood Heaters and Coal-Only Heaters
 - Petroleum Liquid Storage - New Stationary Source Performance Standards
 - Printing Press Operations - New Source Performance Standards
 - Volatile Organic Liquid Storage - General Requirements
 - Volatile Organic Liquid Storage - Regulated Storage Vessels.
 - **Air Contaminant** - dust, fumes, mist, liquid, smoke, other particulate matter, vapor, gas, odorous substances, or any combination thereof, but does not include uncombined water vapor.
 - **Air Contaminant Source** - any facility, building, structure, equipment, vehicle, or action which may emit or result in the emission of an air contaminant directly, indirectly, or in combination with another facility, building, structure, equipment, vehicle, or action.
 - **Air Pollutant** - see *Air Contaminant*.
 - **Air Pollution** - the presence in the atmosphere of one or more air contaminants in such quantities and of such duration as is or tends to be injurious to human health or welfare, animal or plant life, or property, or would unreasonably interfere with the enjoyment of life or property.
 - **Ambient Air** - the portion of the atmosphere external to buildings and to which the general public has access.
 - **AQCR** - see *Air Quality Control Region*.
 - **Asphalt** - a dark-brown to black cementitious material (solid, semisolid, or liquid in consistency) of which the main constituents are bitumens which occur naturally or as a residue of petroleum refining.
 - **Attainment Area** - an area which is not a nonattainment area.

- **Average Monthly Storage Temperature** - an arithmetic average calculated for each calendar month, or portion thereof, if storage is for less than a month, from bulk petroleum liquid storage temperatures determined at least once every 7 days.
- **Boiler** -
 - any device with an enclosed combustion chamber in which fuel is burned to heat a liquid for the primary purpose of producing heat or power by indirect heat transfer
 - with reference to the requirements of the Wood Heaters and Coal-Only Heaters section, a solid burning appliance used primarily for heating spaces, other than the space where the appliance is located, by the distribution through pipes of a gas or fluid heated in the appliance.
- **Breakdown** - a sudden failure of emission control or emission monitoring equipment to function as a result of wear, failure to repair, breakage, unavoidable damage, or other unintentional causes.
- **Btu** - British thermal unit.
- **Bulk Gasoline Plant** - a gasoline storage and distribution facility which receives gasoline from bulk terminals, stores it in stationary tanks, and subsequently distributes it to gasoline dispensing facilities.
- **Capture System** - the equipment (including hoods, ducts, fans, etc.) used to contain, capture, or transport an air contaminant to a control device.
- **CARB** - California Air Resources Board.
- **CARB-certified Vapor Recovery System** - a vapor recovery system which has been certified by the CARB.
- **Coal-only Heater** - an enclosed, coal-burning appliance capable of space heating, or domestic water heating, for which instructions state that the use of wood, except for coal ignition purposes, is prohibited by law.
- **Cold Cleaning** - the batch process of cleaning and removing soils from metal surfaces by spraying, brushing, flushing, or immersion while maintaining the solvent below its boiling point, but not including wipe cleaning.
- **Column Well** - any penetration of an internal floating roof that allows for passage of a column supporting the fixed roof.
- **Construction** - fabrication, erection, or installation of a facility.
- **Control Device** - equipment used to destroy or remove air contaminants in a gas stream exiting a capture system prior to emission.
- **Control System** - any number of control devices, including condensers, which are designed and operated to reduce the quantity of air contaminants emitted to the atmosphere.
- **Conveyorized Non-Vapor Degreasing** - the continuous process of cleaning and removing soils from metal surfaces by operating with nonvaporized solvents.

- ***Conveyorized Vapor Degreasing*** - the continuous process of cleaning and removing soils from metal surfaces by operating with vaporized solvents.
- ***Cookstove*** - a wood-fired appliance that is designed primarily for cooking food.
- ***Cutback Asphalt*** - asphalt cement which has been liquefied with, and contains 5 percent or more by weight of, petroleum solvents (diluents) other than residual oils.
- ***Delivery Vessel*** - a tank truck or trailer or a railroad tank car equipped with a storage tank used for the transport of gasoline from sources of supply to stationary storage tanks of bulk gasoline plants or gasoline dispensing facilities.
- ***Department*** - the Department of Natural Resources, State of Wisconsin.
- ***Direct Source*** - any stationary source which may directly result in the emission of any air contaminant at a fixed location, for example: building demolition, foundry, grain elevator, gravel or stone quarry, paper, power plant, etc.
- ***Emission*** - a release, whether directly or indirectly, of any air contaminant to the atmosphere.
- ***Emission Limitation*** - a requirement which limits the quantity, rate, or concentration of emissions of air contaminants on a continuous basis, and includes a requirement relating to the operation or maintenance of a source to assure continuous emission reduction.
- ***Emission Point*** - any individual opening at a fixed location through which air contaminants are emitted.
- ***Emission Standard*** - see *Emission Limitation*.
- ***Emissions Unit*** - any part of a stationary source which emits or is capable of emitting any air contaminant.
- ***Existing Facility*** - when used in any of the following sections of this manual:
 - for New Source Performance Standards existing facility means any stationary source which meets one of the following conditions:
 - a stationary source which is not an affected facility only because it was constructed or modified before the applicability date for affected facilities of its kind
 - a stationary source that could be altered in some way to become an affected facility.
- ***Facility*** - an establishment--residential, commercial, institutional, or industrial--which emits or causes emissions of air contaminants.
- ***Flexographic Printing*** - the application of words, designs, or pictures to a substrate by means of a roll printing technique in which the pattern is applied is raised above the printing roll and the image carrier made of rubber or other elastomeric materials.
- ***Floating Roof*** - a storage tank cover consisting of a double deck or pontoon single deck, which rests upon and is supported by the petroleum liquid being contained, and is equipped with a closure seal or seals to close the space between the roof edge and tank wall; the floating roof may be either a covered floating roof in an open storage tank or an internal floating cover beneath a fixed roof.

- ***Freeboard Height*** -
 - for a cold cleaner: the distance from the top of the solvent in the degreaser tank to the lip of the tank
 - for a vapor degreaser: the distance from the top of the vapor zone to the lip of the degreaser tank.
- ***Freeboard Ratio*** - the freeboard height divided by the internal width of the degreaser tank.
- ***Fugitive Dust*** - solid airborne particles emitted from any source other than a flue or stack.
- ***Fugitive Emission*** - an emission from any emission point within a facility other than a flue or stack.
- ***Furnace*** - with reference to the Wood Heaters and Coal-Only Heaters section, a solid fuel burning appliance that is designed to be located outside of ordinary living areas, and that warms spaces other than the space where the appliance is located by the distribution of air heated in the appliance through ducts.
- ***Gasoline*** - any petroleum distillate or petroleum distillate/alcohol blend having a reid vapor pressure of 27.6 kPa or greater which is used as a fuel for internal combustion engines.
- ***Gasoline Dispensing Facility*** - any site where gasoline is dispensed directly into the fuel tanks of motor vehicles from stationary storage tanks.
- ***Gasoline Service Station*** - see *Gasoline Dispensing Facility*.
- ***Group 1 Virgin Fossil Fuels*** - include natural gas, liquid petroleum gas, distillate fuel oil, gasoline, and diesel fuel.
- ***Group 2 Virgin Fossil Fuels*** - include coal and residual fuel oil.
- ***Incinerator*** - a combustion apparatus designed for high temperature operation in which solid, semi-solid, liquid, or gaseous combustible wastes are ignited and burned to produce solid and gaseous residues containing little or no combustible material.
- ***Indirect Source*** - any stationary source which conveys motor vehicles or which attracts or may attract mobile source activity and thus indirectly causes the emission of any air contaminant; such indirect sources include, but are not limited to: highways and roads; parking facilities; retail, commercial, and industrial facilities; recreation, amusement, sports, and entertainment facilities; airports; office and government buildings; and educational facilities.
- ***kPa*** - kiloPascals (1.0 kPa = 0.15 psi).
- ***Ladder Well*** - any penetration of an internal floating roof that allows for passage of a ladder.
- ***Lake Michigan Intrastate AQCR*** - in:
 - Subregion 1: the counties of Brown, Outagamie, and Winnebago; and in
 - Subregion 2: the counties of Calumet, Door, Fond du Lac, Green Lake, Kewaunee, Manitowoc, Marinette, Marquette, Menominee, Oconto, Shawano, Sheboygan, Waupaca, and Waushara.
- ***LEL*** - see *Lower Explosive Limit*.

- *Liquid-mounted Seal* - a primary floating roof seal mounted in continuous contact with the liquid in an liquid organic compound storage tank between the tank wall and the floating roof around the internal circumference of the tank.
- *Low Solvent Coating or Ink* - a coating or ink which contains less organic solvent than the conventional coatings used by the particular industry, including water-borne, higher solids, electrodeposition, and powder coatings or inks.
- *Lower Explosive Limit* - the lower limit of flammability of a gas or vapor at ordinary ambient temperatures expressed as percent propane in air by volume.
- *Major Source* - any stationary source which is classified by the Department as a nonattainment area major source or as an attainment area major source.
- *Malfunction* - any sudden and unavoidable failure of air pollution control equipment, or of process equipment, or of a process to operate in a normal or usual manner, except for those failures that are caused entirely or in part by poor maintenance, careless operation, or any other preventable upset condition or preventable equipment breakdown.
- *Maximum True Vapor Pressure* - the equilibrium partial pressure exerted by a stored liquid under one of the following circumstances:
 - for any liquid stored at above or below the ambient temperature: the equilibrium partial pressure exerted by that stored liquid at the temperature equal to the highest calendar-month average of the liquid storage temperature
 - for any liquid stored at the ambient temperature: the equilibrium partial pressure exerted by that stored liquid at the local maximum monthly average temperature as reported by the National Weather Service.
- *Minor Source* - any stationary source which is not a major source.
- *Mobile Source* - any motor vehicle or equipment, other than a semistationary source, which is capable of emitting any air contaminant while moving, for example: automobiles, bulldozers, buses, locomotives, motorboats, motorcycles, snowmobiles, steamships, trucks, etc.
- *Modification* - any physical change in, or change in the method of operation of, an existing facility which results or may result in either an increase in the emission of any air pollutant to which a standard applies, or the emission of any such air pollutant not previously emitted.
- *Monitoring Device* - the total equipment used to measure and, if applicable, to record process parameters.
- *Nonattainment Area* - an area identified by the Department where the concentration in the atmosphere of an air contaminant exceeds an ambient air quality standard.
- *Opacity* - the state of a substance which renders it partially or wholly impervious to rays of light; or the degree to which emissions reduce the transmission of light and obscure the view of an object in the background.
- *Open Burning* - oxidation from the products of combustion are emitted directly into the ambient air without passing through a stack or chimney.

- *Open-top Vapor Degreasing* - the batch process of cleaning and removing soils from metal surfaces by condensing hot solvent vapor on the colder metal parts.
- *Organic Compound* - any compound of carbon excluding CO, CO₂, carbonic acid, metallic carbides, metallic carbonates, and ammonium carbonate.
- *Ozone Season* - the period from 1 May through 30 September of any year.
- *Packaging Rotogravure Printing* - rotogravure printing upon paper, paperboard, metal foil, plastic film, or other substrates which are to be used to produce labels, containers or packages.
- *Particulate Matter* - any airborne finely divided solid or liquid material with an aerodynamic diameter smaller than 100 µm.
- *Petroleum* - the crude oil removed from the earth, and the oils derived from tar sands, shale, and coal.
- *Petroleum Liquid* - crude petroleum, petroleum, condensate, and any finished or intermediate products manufactured or extracted in a petroleum refinery or in a facility which produces oils from tar sands, shale, coal, or coke.
- *Photochemically Reactive Organic Substances* - any substance of which more than 20 percent of its volume, in aggregate, is made up of compounds in any of following chemical compound classes, or any substance which contains compounds in any single one of those classes in concentrations that exceed the values listed, where compounds which can be classed as members of more than one of these classes are considered to be members of the most reactive group, i.e., that group whose allowable concentration is lowest:
 - hydrocarbons, alcohols, aldehydes, esters, ethers or ketones, which have olefinic or cyclo-olefinic type unsaturation: 5 percent
 - aromatic compounds with eight or more carbon atoms to the molecule, except ethylbenzene: 8 percent
 - ethylbenzene, toluene, or ketones having branched hydrocarbon structures: 20 percent.
- *Portable Source* - a type of direct source, that is, any facility, installation, operation or equipment which may directly result in the emission of any air contaminant only while at a fixed location, which is capable of being transported to a different location, for example: a portable asphalt plant, portable package boiler, portable air curtain destructor, etc.
- *ppm* - parts per million by volume.
- *Primary Seal* - the lower seal in an external floating roof.
- *Process Weight* - the total weight of all materials introduced into any direct source operation, except liquid fuels, gaseous fuels, and air.
- *Proof Press* - any device used only to check the quality of the image formation of newly engraved or etched gravure cylinders and which prints only nonsaleable items.
- *psi* - pounds per square inch.
- *Publication Rotogravure Printing* - rotogravure printing upon paper which is subsequently formed into books, magazines, catalogs, brochures, directories, newspaper supplements, or other types of printed material.

- **RACT** - see *Reasonably Available Control Technology*.
- **Reasonably Available Control Technology** - that which provides the lowest emission rate that a particular source is capable of achieving by the application of control technology that is reasonably available considering technological and economic feasibility.
- **Reid Vapor Pressure** - the absolute vapor pressure of volatile crude petroleum and volatile nonviscous petroleum liquids, except liquefied petroleum gases, as determined by American Society of Testing and Materials (ASTM) D323-89.
- **Remediation** - the removal of a contaminant from a solid or liquid material.
- **Residual Fuel Oil** - an industrial fuel oil of grades No. 4, No. 5, or No. 6.
- **Rotogravure Printing** - the application of words, designs or pictures to a substrate by means of a roll printing technique which involves an intaglio or recessed image areas in the form of cells.
- **Sample Well** - any penetration of an internal floating roof for the purpose of sampling.
- **Secondary Seal** - the upper seal of an external floating roof.
- **Semistationary Source** - any facility, operation, or equipment that has the capability of emitting any air contaminant while moving, but generally does not emit while moving, for example: diesel cranes, air compressors, and electric generators such as those used at construction sites, etc.
- **Settling Tank** - a container that gravimetrically separates oils, grease, and dirt from petroleum solvent, together with the piping and ductwork used in the installation of this device.
- **Shutdown** - the cessation of operation of a direct or portable source, or of emission control equipment, for any purpose.
- **Sludge** - refers to sludge produced by a treatment plant that processes municipal or industrial waste waters.
- **Sludge Dryer** - a device used to reduce the moisture content of sludge by heating to temperatures above 65 °C (ca. 150 °F) directly with combustion gases.
- **Smoke** - all products of combustion of sufficient density to be observable, including but not limited to carbon, dust, fly ash, and other particles, but not including uncombined water.
- **Solvent** - organic materials which are liquid at standard conditions and which are used as dissolvers, viscosity reducers, or cleaning agents.
- **Solvent Filter** - a discrete solvent filter unit containing a porous medium that traps and removes contaminants from a solvent, together with the piping and ductwork used in the installation of this device.
- **Solvent Recovery Dryer** - a dry cleaning dryer that employs a condenser to liquefy and recover solvent vapors evaporated in a closed-loop stream of heated air, together with the piping and ductwork used in the installation of this device.
- **Southeastern Wisconsin Intrastate AQCR** - the counties of Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, and Waukesha.

- **Stack** - any device or opening designed or used to emit air contaminants to the ambient air.
- **Standard Conditions** - a temperature of 20 °C (68 °F) and a gas pressure of 760 mm Hg.
- **Standard Pressure** - a pressure of 760 mm Hg.
- **Standard Temperature** - a temperature of 20 °C (68 °F).
- **Startup** - the setting in operation of a facility or its emission control equipment for any purpose which produces emissions.
- **Stationary Source** - any building, structure, facility, or installation which emits or may emit any pollutant; or an air contaminant source which directly or indirectly is capable of emitting an air contaminant only from a fixed location, including all of the following:
 - one which is capable of being transported to a different location
 - one which consists of one or more pieces of process equipment, each of which is capable of emitting an air contaminant; but not including a motor vehicle or equipment which is capable of emitting an air contaminant while moving.
- **Still** - a device used to volatilize, separate, and recover clean solvent from contaminated solvent, together with the piping and ductwork used in the installation of this device.
- **Submerged Fill Pipe** - any fill pipe with a discharge opening which is entirely submerged when the liquid level is 15.2 cm (6 in.) above the bottom of the container.
- **Top Off** - to attempt to dispense gasoline into a motor vehicle fuel tank after a vapor recovery dispensing nozzle has shut off automatically.
- **Traffic Volume** - the number of vehicles that pass a particular point on a road or highway during a specific time period.
- **True Vapor Pressure** - the equilibrium partial pressure exerted by a petroleum liquid as determined in accordance with methods described in American Petroleum Institute (API) Bulletin 2517 *Evaporation Loss from Floating Roof Tanks*.
- **Uncombined Water** - water not chemically or physically bound to other materials.
- **Vacuum Producing System** - any reciprocating, rotary, or centrifugal blower or compressor, or any jet ejector or device that takes suction from a pressure below atmospheric and discharges against atmospheric pressure.
- **Vapor Balance System** - a combination of pipes or hoses which create a closed system between the vapor spaces of an unloading tank and a receiving tank such that vapors displaced from the receiving tank are transferred to the tank being unloaded.
- **Vapor Collection System** - for the purpose of liquid organic compound transfer operations, a vapor transport system which uses direct displacement by the liquid loaded to force vapors from the tank into a vapor control system or vapor holding tank.
- **Vapor-Mounted Seal** - any primary floating roof seal mounted so that there is an annular vapor space, underneath the seal, and bounded by the bottom of the primary seal, the tank wall, the liquid surface, and the floating roof.

- **Vapor Recovery or Control System** - consists of a vapor gathering system capable of collecting the hydrocarbon vapors and gases discharged, and a vapor disposal system capable of processing such hydrocarbon vapors and gases so as to prevent their emission to the atmosphere.
- **Vent** - any port or opening which allows gases to be discharged to the atmosphere when leaving a reactor or other equipment.
- **Virgin Fossil Fuel** - any solid, refined liquid or refined gaseous fossil fuel with Btu content greater than 7000 Btu/lb which is not blended with reprocessed or recycled fuels.
- **VOC** - see *Volatile Organic Compound*.
- **VOL** - see *Volatile Organic Liquid*.
- **Volatile Organic Compound (VOC)** - any organic compound which participates in atmospheric photochemical reactions, that is any organic compound other than any of the following:
 - methane
 - ethane
 - methylene chloride (dichloromethane)
 - 1,1,1-trichloroethane (methyl chloroform)
 - trichlorofluoromethane (CFC-11)
 - dichlorodifluoromethane (CFC-12)
 - chlorodifluoromethane (CFC-22)
 - trifluoromethane (FC-23)
 - trichlorotrifluoroethane (CFC-113)
 - dichlorotetrafluoroethane (CFC-114)
 - chloropentafluoroethane (CFC-115).
 - dichlorotrifluoroethane (HCFC-123)
 - tetrafluoroethane (HCFC-134a)
 - dichlorofluoroethane (HCFC-141b)
 - chlorodifluoroethane (HCFC-142b).
- **Volatile Organic Liquid (VOL)** - any organic liquid, including petroleum liquids, that can emit any VOC.
- **WAC** - the Wisconsin Administrative Code.
- **Washer** - a machine, used in dry cleaning operations, which agitates fabric articles in a solvent bath and spins the articles to remove the solvent, together with the piping and ductwork used in the installation of this device.
- **Wood Heater** - an enclosed woodburning appliance capable of and intended for space heating or domestic water heating.
- **WSA** - Wisconsin Statutes Annotated.

CLEAN AIR ACT (CAA)
GUIDANCE FOR WISCONSIN CHECKLIST USERS

| Applicability: | Refer to Checklist Items: |
|---|--------------------------------------|
| All Installations | 1-1 |
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| ALL INSTALLATIONS <p>1-1. Installations are prohibited from concealing the emission of air contaminants (WAC Sections Natural Resources (NR) 439.10 and 440.12).</p> | <p>Verify that the installation does not install or use any article, machine, equipment, process or method which conceals an emission that is in violation of the requirements of this manual.</p> <p>(NOTE: Concealment includes using gas diluents to achieve compliance, or unnecessary separation of an operation into parts to avoid coverage by a requirement applying only to operations larger than a specific size.)</p> |
| PERMITS <p>1-2. Installations are required to obtain a permit before constructing or modifying a stationary source (WAC Section NR 406.03).</p> <p>1-3. Installations that operate existing stationary sources must meet specific permit requirements (WAC Section NR 407.01; WSA Sections 144.391(1)(bm), (2)(bm), and (3)(bm)).</p> | <p>Determine if the construction, reconstruction, replacement, relocation, or modification meets any of the provisions listed in Appendix 1-1, which are exempt from this regulation.</p> <p>Verify that the installation has obtained a permit prior to beginning construction or modification of the source and operation of the resulting new or modified source.</p> <p>Determine if the installation operates a direct source that meets the provisions listed in Appendix 1-2, which are exempt from this regulation.</p> <p>Verify that the installation has obtained a mandatory operation permit for the source.</p> |
| EQUIPMENT MALFUNCTION PREVENTION AND ABATEMENT <p>1-4. Installations that operate direct or portable sources must have a malfunction prevention and abatement plan (WAC Sections NR 439.11(1) through (3)).</p> | <p>Determine if the installation operates any direct or portable source that emits hazardous substances or emits more than 15 lb in any day, or more than 3 lb in any hour of any air contaminant for which emission limits have been adopted.</p> <p>Verify that the installation has developed a malfunction prevention and abatement plan that includes the following information:</p> <ul style="list-style-type: none"> - identification of the individual responsible for inspecting, maintaining, and repairing the air pollution control equipment - maximum allowable intervals for inspection and routine maintenance - a description of the items or conditions that will be checked - a listing of materials and spare parts to be kept in inventory |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| 1-4. (continued) | <ul style="list-style-type: none"> - identification of the source and air pollution control equipment operation variables that will be monitored in order to detect a malfunction or failure - the correct operating range of the variables being monitored and a description of the monitoring methods used - a description of corrective measures to be taken in the event of equipment breakdown. |
| AIR POLLUTION EPISODE EMISSION CONTROL PLANS | <p>(NOTE: When the concentration of specific air pollutants reaches certain levels, the Department may declare an air pollution episode. An episode is classified as an Alert, Warning, or Emergency, depending upon the pollutant concentration levels reached. Emission control action programs and other control measures form the bases for abatement of the damaging effects of air pollution during these episodes.)</p> <p>Verify that the emission control action program contains detailed steps that will be taken by the installation to reduce the emission of air pollutants during each stage of an air pollution episode.</p> |
| 1-5. Installations that operate direct sources that emit 0.25 tons or more per day of any air contaminant are required to develop an emission control action program (WAC Section NR 493.04). | |
| RECORDKEEPING REQUIREMENTS | <p>Verify that the installation maintains records that contain the following information:</p> <ul style="list-style-type: none"> - all conducted or required testing and monitoring - all malfunctions which result in emission limitation violations - activities specified in any Department-approved compliance schedule - that which the Department has requested the installation to keep. <p>Verify that the installation keeps these records for a minimum of 3 yr.</p> |
| 1-6. Installations that operate air contaminant sources must meet specific recordkeeping requirements (WAC Sections NR 439.04(1) and (2)). | |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| REPORTING REQUIREMENTS 1-7. Installations that operate air contaminant sources must meet specific reporting requirements (WAC Sections NR 439.03(4) through (6), and NR 445.08). | <p>Verify that the installation notifies the Department in accordance with the schedules given below, whenever any of the following conditions is met:</p> <ul style="list-style-type: none"> - immediately, when hazardous substances are emitted in excess of any emission limitation - in the quarterly excess emissions report, when visible emissions detected by a continuous emission monitor are less than 10 percent opacity above the opacity limit for 30 min or less - on the next business day, when any other emission limitation violation results or may result from a malfunction or other unscheduled event at any air contaminant source - on the next business day, when a shutdown, breakdown or malfunction of a required continuous emission monitoring system or monitoring device occurs and is expected to continue for more than 1 week - prior to conducting these operations, when shutdown, startup, or maintenance of any air pollution control equipment is scheduled. |
| NOTIFICATION REQUIREMENTS - New Source Performance Standards 1-8. Installations that construct any affected facility must meet specific notification requirements (WAC Sections NR 440.07(1)(a) and 440.642(11)(a)). | <p>Determine if the installation has constructed a new stationary source that satisfies the definition of an affected facility.</p> <p>Determine if the installation operates any of the following types of sources, which are exempt from these requirements:</p> <ul style="list-style-type: none"> - mass-produced facilities that are purchased in completed form - all wood heaters and coal-only heaters. <p>Verify that the installation has notified the Department within 30 days after commencing construction of the affected facility.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>1-9. Installations that reconstruct any affected facility or existing facility must meet specific notification requirements (WAC Sections NR 440.07(1)(a), 440.15, and 440.642(11)(a) and (c)).</p> | <p>(NOTE: All wood heaters and coal-only heaters are exempt from these requirements.)</p> <p>Determine if the installation has reconstructed any stationary source that meets the following conditions:</p> <ul style="list-style-type: none"> - the source satisfies the definition of an affected facility or an existing facility - the reconstruction operation results in replacement of source components to the extent that the cost of those components exceeds 50 percent of what it would cost to construct an comparable entirely new facility. <p>Verify that the installation has notified the Department on all of the following occasions:</p> <ul style="list-style-type: none"> - 60 days (or as soon as practicable) before beginning construction of the replacement components - within 30 days after commencing reconstruction. |
| <p>1-10. Installations that modify any existing facility must meet specific notification requirements (WAC Sections NR 440.07(1)(d), 440.14, and 440.642(11)(a)).</p> | <p>(NOTE: All wood heaters and coal-only heaters are exempt from these requirements.)</p> <p>Determine if the installation has implemented any physical or operational change to an existing facility which may increase the emission rate of any air pollutant to the extent that the existing facility becomes an affected facility.</p> <p>Verify that the installation meets one of the following requirements:</p> <ul style="list-style-type: none"> - notifies the Department 60 days (or as soon as practicable) before beginning modification of the existing source - proves that the modification is exempt from this notification requirement. |
| <p>1-11. Installations that operate any affected facility must meet specific notification requirements (WAC Sections NR 440.07(1)(b), (c), and 440.642(11)(a)).</p> | <p>(NOTE: All wood heaters and coal-only heaters are exempt from these requirements.)</p> <p>Verify that the installation has notified the Department on all of the following occasions:</p> <ul style="list-style-type: none"> - 30 to 60 days prior to anticipated date of initial startup of affected facility - within 15 days after the actual startup date. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| RECORDKEEPING REQUIREMENTS - New Source Performance Standards <p>1-12. Installations that operate affected facilities must meet specific recordkeeping requirements (WAC Sections NR 440.07(2)).</p> | <p>(NOTE: All wood heaters and coal-only heaters are exempt from these requirements.)</p> <p>Verify that the installation keeps records of the following for each affected facility that it operates:</p> <ul style="list-style-type: none"> - occurrence and duration of each startup, shutdown and malfunction of each affected facility - any malfunction of its air pollution control equipment. |
| FUGITIVE DUST <p>1-13. Installations are required to prevent particulate matter from becoming airborne (WAC Section NR 415.04(1)).</p> | <p>Verify that the installation does not allow any materials to be handled, transported, or stored, or a building, its appurtenances, or a road to be used, constructed, altered, repaired, or demolished, without taking reasonable precautions, including but not limited to the following, to prevent matter from becoming airborne:</p> <ul style="list-style-type: none"> - use, where possible, of water or chemicals to control dust in demolition, construction or land-clearing operations - application of asphalt, oil, water, suitable chemicals, or plastic covering on dirt roads, materials stockpiles, and other surfaces that can give rise to airborne dusts, provided that the application does not create a hydrocarbon, odor, or water pollution problem - use of hoods, fans, and air cleaning devices - covering or securing of materials while they are in transport - conducting agricultural practices (e.g., tilling or fertilizing) in ways that do not produce emissions - paving or maintaining roadway areas. |
| PARTICULATE EMISSIONS - Process Equipment <p>1-14. Installations that operate process equipment that emits particulate matter must meet specific emission standards (WAC Section NR 415.05(1) and (2)).</p> | <p>Determine if the installation operates any process equipment that are direct or portable sources.</p> <p>Verify that the particulate matter emissions from each such source meet the limits listed below:</p> <ul style="list-style-type: none"> - 0.40 lb of particulate matter per 1000 lb of gas, for sources under construction or modification on or before 1 April 1972 - the limits listed in Appendix 1-3, for sources on which construction or modification began after 1 April 1972. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>1-15. Installations must meet additional emission limitation requirements under certain circumstances (WAC Sections NR 401.025 and NR 415.05(3) through (5)).</p> <p>PARTICULATE EMISSIONS - Fuel Burning Equipment</p> <p>1-16. Installations that operate fuel burning equipment must meet specific particulate matter emission standards (WAC Section NR 415.06(1) and (2)).</p> | <p>Determine if the installation is located in or near a nonattainment area and operates process equipment that emits particulate matter.</p> <p>Verify that the particulate matter emissions do not exceed the following limits:</p> <ul style="list-style-type: none"> - 0.20 lb of particulate matter per 1000 lb of gas, for sources under construction or modification on or before 1 April 1972 - the limits listed in Appendix 1-3 or 0.20 lb of particulate matter per 1000 lb of gas, whichever is more restrictive, for sources on which construction or modification began after 1 April 1972. <p>Determine if the installation operates any fuel burning equipment that has a maximum heat input of more than 1 MBtu/h and is any of the following:</p> <ul style="list-style-type: none"> - an indirect heat exchanger - a power or heating plant - a fuel-burning installation. <p>Verify that the particulate matter emissions from each such source that was under construction or modification on or before 1 April 1972, do not exceed the applicable limitations listed in Appendix 1-4, Part A.</p> <p>Verify that the particulate matter emissions from each such source on which construction or modification began after 1 April 1972, do not exceed the applicable limitations listed in Appendix 1-4, Part B.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>PARTICULATE EMISSIONS - Incinerators</p> <p>1-17. Installations that operate incinerators on which construction was commenced on or before 1 April 1972 must meet specific particulate matter emission standards (WAC Section NR 415.07(1)).</p> | <p>Determine if the installation operates any incinerators on which construction or modification was commenced on or before 1 April 1972.</p> <p>Verify that all such incinerators meet one of the following particulate matter emission standards:</p> <ul style="list-style-type: none"> - 0.50 lb of particulate matter per 1000 lb of exhaust gas, for incinerators rated at over 500 lb of waste per hour - 0.60 lb of particulate matter per 1000 lb of exhaust gas, for incinerators rated at 500 lb of waste per hour or less. <p>Determine if the installation is located in the Southeastern Wisconsin Intrastate AQCR or in subregion 1 of the Lake Michigan Intrastate AQCR.</p> <p>Verify that the incinerators meet all of the following particulate emissions standards, where applicable:</p> <ul style="list-style-type: none"> - 0.30 lb of particulate matter per 1000 lb of exhaust gas, for incinerators of 5 ft³ capacity or more - the performance emission requirements of ANSI standard Z21.6, for prefabricated domestic incinerators below 5 ft³ capacity. |
| <p>1-18. Installations that operate incinerators on which construction was commenced after 1 April 1972 must meet specific particulate matter emission standards (WAC Section NR 415.07(2)).</p> | <p>Determine if the installation operates any incinerators on which construction or modification was commenced after 1 April 1972.</p> <p>Verify that all such incinerators meet one of the following particulate matter emission standards:</p> <ul style="list-style-type: none"> - 1.30 lb/ton (0.65 g/kg) of dry sludge/grit input, for sewage treatment plant sludge incinerators on which construction or modification was commenced after 1 February 1975 - the performance emission requirements of ANSI standard Z21.6, for prefabricated domestic incinerators below 5 ft³ capacity - 0.30 lb of particulate matter per 1000 lb of exhaust gas, for all other incinerators rated at 500 lb of waste per hour or less - 0.20 lb of particulate matter per 1000 lb of exhaust gas, for all incinerators rated at over 500 and less than 4000 lb of waste per hour - 0.15 lb of particulate matter per 1000 lb of exhaust gas, for all incinerators rated at 4000 lb of waste per hour or more. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| VISIBLE EMISSIONS <p>1-19. Installations must meet specific visible emission standards (WAC Sections NR 431.03 through NR 431.05).</p> | <p>(NOTE: The Department may permit violations of these standards or may establish alternative ones. Where the presence of uncombined water in an emission is the only reason for its failure to meet these standards, such failure is not a violation.)</p> <p>Determine if the following types of visible emissions, which are exempt from these standards, occur on the installation:</p> <ul style="list-style-type: none"> - emission that occurs while the source's combustion equipment is being cleaned or while a new fire is being started <p>(NOTE: The source combustion equipment is not cleaned nor is a new fire started more than 3 times/day.)</p> <ul style="list-style-type: none"> - emission whose shade or density does not exceed No. 4 on the Ringelmann Chart or 80 percent opacity for more than 5 min in any 1 h - emissions of shade or density greater than No. 1 on the Ringelmann Chart or 20 percent opacity, for sources located in the Southeastern Wisconsin Intrastate AQCR or in subregion 1 of the Lake Michigan Intrastate AQCR - emissions of a shade or density greater than No. 2 on the Ringelmann Chart or 40 percent opacity, for all other sources. <p>Verify that direct or portable sources on which construction or modification was commenced after 1 April 1972 do not discharge emissions of shade or density greater than No. 1 on the Ringelmann Chart or 20 percent opacity.</p> |
| SULFUR COMPOUND EMISSIONS <p>1-20. Installations must meet specific sulfur compound emission standards (WAC Section NR 417.07(1) and Chapter NR 418).</p> | <p>Determine if the installation operates any direct sources of SO₂ emissions and is located in any of the following areas:</p> <ul style="list-style-type: none"> - the Village of Brokaw in Marathon County - the City of Madison in Dane County - the Southeastern Wisconsin Intrastate AQCR - the City of Milwaukee in Milwaukee County - the Cities of Green Bay and DePere in Brown County. <p>Verify that sulfur compound emissions do not exceed the limits outlined in Appendix 1-5.</p> |

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| <p>1-21. Installations that operate existing sources of SO₂ emissions must meet specific emission standards (WAC Sections NR 417.07(1)(b), (2), (4) through (6), (7)(b), and (8)).</p> | <p>Determine if the installation operates any solid fossil fuel-fired or residual fuel oil-fired steam generating unit or other fuel burning equipment that was constructed on or before 1 February 1985.</p> <p>Verify that the installation meets the requirements of a Department-approved compliance plan for each such piece of equipment.</p> <p>Verify that the SO₂ emissions from any stack at a facility housing that equipment do not exceed the values listed below:</p> <ul style="list-style-type: none"> - 3.2 lb of SO₂/MBtu heat input, for solid fossil fuel-fired equipment, alone or in combination with equipment fired with other fuels, at a facility whose total heat input capacity on solid fossil fuel is greater than or equal to 250 MBtu/h - 5.5 lb of SO₂/MBtu heat input, for solid fossil fuel-fired equipment at a facility whose total heat input capacity on that fuel is less than 250 MBtu/h - 1.5 lb of SO₂/MBtu heat input, for residual fuel oil-fired equipment at a facility whose total heat input capacity on that fuel is greater than or equal to 250 MBtu/h - 3.0 lb of SO₂/MBtu heat input, for residual fuel oil-fired equipment at a facility whose total heat input capacity on that fuel is less than 250 MBtu/h. <p>Verify that the installation keeps, on source premises, records of emissions data and calculations used to demonstrate compliance.</p> |
| <p>1-22. Installations that operate new sources of SO₂ emissions must meet specific emission standards (WAC Sections NR 417.07(1)(b), (3), and (4)).</p> | <p>Determine if the installation operates any solid fossil fuel-fired or residual fuel oil-fired steam generating unit or other fuel burning equipment that was constructed after 1 February 1985.</p> <p>Verify that the SO₂ emissions from that equipment do not exceed the following limits:</p> <ul style="list-style-type: none"> - 3.2 lb of SO₂/MBtu heat input, for solid fossil fuel-fired equipment - 1.5 lb of SO₂/MBtu heat input, for residual fuel oil-fired equipment. |

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| <p>MOTOR VEHICLES AND INTERNAL COMBUSTION ENGINES</p> <p>1-23. Installations that operate motor vehicles must meet specific vehicle emission inspection requirements (WSA Sections 144.42(5), 110.20(1)(b), 110.20(6) and (8), and 341.26(2); WAC Sections 485.04(2) and 485.07(1)).</p> | <p>Determine if the installation operates motor vehicles that meet any of the following conditions, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - model year of 1967 or earlier - gross vehicular weight greater than 8000 lb - powered by diesel fuel - new motor vehicles not previously registered in any state - motor vehicles exempted by the Department - mopeds or motorcycles - motor carriers used <i>for hire</i> - truck tractors - motor homes - most grading, ditching, excavating and hauling vehicles (check with Department). <p>Verify that each motor vehicle operated by the installation passes an emissions test conducted by a Department-approved inspection facility at the following intervals:</p> <ul style="list-style-type: none"> - once every 2 yr during the first 6 yr after the vehicle's model year - once every year after the 6th yr after the vehicle's model year. <p>Verify that each motor vehicle with a model year of 1975 or later operated by the installation passes an air pollution control equipment inspection conducted by a Department-approved inspection facility at the following intervals:</p> <ul style="list-style-type: none"> - during the 6th yr after the vehicle's model year - once every 3 yr after the 6th yr after the vehicle's model year. |
| <p>1-24. Installations that operate motor vehicles equipped with manufacturer-installed air pollution control equipment must meet specific vehicle emission inspection requirements (WAC Section NR 485.06).</p> | <p>Determine if the installation operates any motor vehicles equipped with factory-installed-prior-to-sale air pollution control equipment, including, but not limited to, the following:</p> <ul style="list-style-type: none"> - positive crankcase ventilation equipment - exhaust emission control equipment - evaporative fuel loss control equipment - any control equipment operating on principles such as thermal decomposition, catalytic oxidation or reduction, absorption, or adsorption. <p>Verify that this equipment meets all of the following requirements:</p> <ul style="list-style-type: none"> - it is in good working order - it has not been tampered with - if it has been replaced, new identical or comparable tested replacement equipment is used. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>1-25. Installations that operate internal combustion engines must meet specific visible emissions standards (WAC Section NR 485.05).</p> <p>WOOD HEATERS AND COAL-ONLY HEATERS</p> <p>1-26. Installations that operate wood heaters or coal-only heaters must meet specific requirements (WAC Sections NR 440.642(1)(a), (1)(g), (1)(h), (7)(f)(1), 7(f)(3), 7(g)(1), 7(g)(3), (9)(a), and 9(f) through (i)).</p> | <p>Verify that, except when uncombined water is the cause of that violation, visible emissions from each of the following internal combustion sources meet the limitations listed:</p> <ul style="list-style-type: none"> - no visible emissions for longer than 5 consecutive seconds, for gasoline-powered internal combustion engines of 25 horsepower (hp) or more - no visible emissions for longer than 5 consecutive seconds, for gasoline-powered motor vehicles - no emissions, for longer than 10 consecutive seconds, of a shade or density greater than Ringelmann No. 1 or 20 percent opacity, for diesel-powered motor vehicles of model year 1970 or later - no emissions, for longer than 10 consecutive seconds, of a shade or density greater than Ringelmann No. 2 or 40 percent opacity, for diesel-powered motor vehicles of model year 1969 or earlier - no emissions, for longer than 5 min total in any 30-min period, of a shade or density greater than Ringelmann No. 2 or 40 percent opacity, and no emissions at any time of shade or density greater than Ringelmann No. 4 or 80 percent opacity, for ships, locomotives, or semistationary diesel engines. <p>Determine if the installation operates a wood heater or coal-only heater that was manufactured on or after 1 July 1988, or sold at retail on or after 1 July 1990.</p> <p>Determine if the installation operates one of the following types of wood-burning or coal-only-burning appliances, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - open masonry fireplaces constructed on site - boilers - furnaces - cookstoves. <p>Verify that the heater has a permanent label attached which reads: STATE OF WISCONSIN, DEPARTMENT OF NATURAL RESOURCES.</p> <p>Verify that the permanent label has not been altered, defaced, or removed.</p> <p>Verify that any heater that was originally equipped with a catalytic combustor is not being operated if the catalytic element has been deactivated or removed.</p> |

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| <p>OPEN BURNING</p> <p>1-27. Installations are prohibited from engaging in open burning (WAC Section NR 429.04).</p> | <p>Determine if the installation engages in one of the following types of open burning, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - burning of brush or weeds on agricultural lands - backfires to control forest fires, or fires set for forest or wildlife habitat management, provided the Department has approved - burning of explosive or dangerous material for which there is no other safe means of disposal - burning of small amounts of dry combustible rubbish, excluding wet combustible rubbish, garbage, oily substances, asphalt, plastic, or rubber products, and except where prohibited by local ordinance - burning at rural or isolated solid waste disposal sites outside of the Southeastern Wisconsin Intrastate AQCR, with a permit to do so - burning of special waste with Departmental approval - outdoor fires for cooking, ceremonies or recreation - burning of trees, limbs, stumps, brush, or weeds for clearing or maintenance of rights-of-ways outside the Southeastern Wisconsin Intrastate AQCR - burning of trees, wood, brush or demolition materials, excluding asphaltic or rubber material, using Department-approved methods - small open flames used for welding, acetylene torches, safety flares, heating tar, or similar applications - burning of gaseous or liquid wastes using Department-approved methods - burning of small amounts of dry leaves and plant clippings except where prohibited by local ordinance. <p>Verify that the installation does not engage in open burning.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>ORGANIC COMPOUNDS - Storage, Transfer, and Disposal</p> <p>1-28. Installations that store organic compounds must meet specific emission control requirements (WAC Sections NR 419.05 and NR 425.04(1)(a)).</p> | <p>Determine if the installation has any organic compound storage tanks that have a capacity greater than 151,412 L (40,000 gal), and that meet one of the following conditions:</p> <ul style="list-style-type: none"> - the tank is located in the Wisconsin Intrastate AQCR - the tank underwent construction or modification that began after 1 April 1972. <p>Determine if the installation uses any tanks that meet the following conditions which are exempt from this regulation:</p> <ul style="list-style-type: none"> - tank construction or modification began before 1 August 1979 - the tank stores only the following organic compounds: nonphotochemically reactive organic compounds, saturated halogenated hydrocarbons, perchloroethylene, or acetone. <p>Determine if the installation uses any tanks that store any organic compound, solvent or mixture which has a vapor pressure greater than 10.5 kPa (1.52 psia) at 21 °C (70 °F).</p> <p>Verify that each such tank meets one of the following sets of requirements, whichever is more stringent:</p> <ul style="list-style-type: none"> - where applicable, the requirements of the Petroleum Liquid Storage section - is equipped with one of the following kinds of emission control devices: <ul style="list-style-type: none"> - floating roof - vapor condensation system - vapor holding tanks - a Department-approved alternative. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>1-29. Installations that transfer organic compounds must meet specific emission control requirements (WAC Sections NR 419.06, NR 421.03(3)(b) and NR 425.04(1)(a)).</p> | <p>Determine if the installation conducts transfer operations that involve any organic compound, solvent or mixture that has a vapor pressure greater than 10.5 kPa (1.52 psia) at 21 °C (70 °F), takes place in the Wisconsin Intrastate AQCR, or takes place at any facility on which construction or modification began after 1 April 1972.</p> <p>Determine if the installation conducts any of the following types of transfer operations, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - transfer operations conducted at a facility on which construction or modification began before 1 August 1979 - transfer operations that involve only the following kinds of organic compounds: nonphotochemically reactive organic compounds, saturated halogenated hydrocarbons, perchloroethylene, and acetone. <p>Verify that a permanent submerged fill pipe is used during the transfer of organic compounds to any storage tank with a capacity greater than 3785 L (1000 gal), that is not equipped with either of the following:</p> <ul style="list-style-type: none"> - pressure-vacuum conservation vents set at ± 0.2 kPa - a Department-approved alternative. <p>Verify that during each transfer into a tank truck or trailer at a facility with a throughput of over 151,412 L/day (40,000 gal/day), one of the following methods or devices is used:</p> <ul style="list-style-type: none"> - a vapor collection and disposal system - vapor collection adaptors and vapor-tight seal - an underfill method with the top hatches partially closed - a means of creating a slight back pressure while loading. <p>Verify that during each transfer into a tank truck or trailer at a facility with a throughput of 151,412 L/day (40,000 gal/day) or less, one of the following methods or devices is used:</p> <ul style="list-style-type: none"> - a submerged fill pipe extending to within 6 in. of the tank bottom - an underfill method with the top hatches partially closed. |
| <p>1-30. Installations that generate wastes containing VOC must meet specific disposal requirements (WAC Section NR 419.04).</p> | <p>Determine if the installation disposes any of the following in any 1 day:</p> <ul style="list-style-type: none"> - more than 5.7 L (1.5 gal) of any liquid VOC waste - liquid, semisolid or solid waste materials containing more than 5.7 L (1.5 gal) of any VOC. <p>Verify that during the ozone season, all such VOC-containing waste materials are disposed of using Department-approved methods.</p> <p>Verify that during the ozone season, evaporative losses of VOC from that waste do not exceed, on any 1 day, 5.7 L (1.5 gal), or 15 percent by weight, whichever is larger.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>ORGANIC COMPOUND EMISSIONS - Methylene, Chloride, and Methyl Chloroform</p> <p>1-31. Installations that operate sources of methylene chloride or methyl chloroform emissions must meet specific registration requirements (WAC Section NR 425.04(2)).</p> | <p>Determine if the installation operates a source which has total combined emissions of methylene chloride and methyl chloroform in excess of 0.50 tons in a calendar year.</p> <p>Verify that the installation registers that solvent use with the Department by 1 February of the year following such use.</p> |
| <p>ASPHALT PAVING MATERIALS</p> <p>1-32. Installations that apply asphalt paving materials must meet specific requirements (WAC Section NR 422.16).</p> | <p>Determine if the installation applies cutback asphalt to surfaces traversed by motor vehicles, bicycles or pedestrians.</p> <p>Verify that the installation does not use rapid curing cutback asphalts containing gasoline or naphtha under any circumstances.</p> <p>Verify that the installation does not use any other types of cutback asphalts, except for the following purposes:</p> <ul style="list-style-type: none"> - to apply a single coat of liquid asphalt to an aggregate base to control dust - as a penetrating prime coat during the first and last months of the ozone season. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>DEGREASING OPERATIONS</p> <p>1-33. Installations that operate cold cleaning degreasing equipment must meet specific equipment standards and operating requirements (WAC Sections NR 423.03(1) through (3)).</p> | <p>Determine if the cold cleaner meets any of the following conditions, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - not more than 5.7 L (1.5 gal) of solvent is added per day - the cold cleaner is located outside the counties of Brown, Calumet, Dane, Dodge, Fond du Lac, Jefferson, Kenosha, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha, and Winnebago. <p>Verify that the installation equips all cold cleaners with a cover.</p> <p>Verify that the installation equips the cold cleaner with the following:</p> <p>(NOTE: The following requirements do not apply to cold cleaners with an open area smaller than 0.10 m² (1.1 ft²).)</p> <ul style="list-style-type: none"> - a cover that can be easily operated with one hand if one of the following conditions is met: <ul style="list-style-type: none"> - the solvent volatility is greater than 2 kPa (0.3 psia) measured at 38 °C (100 °F) - the solvent is agitated - the solvent is heated - a facility for draining cleaned parts, constructed internally so that parts are enclosed under the cover while draining, if the solvent volatility is greater than 4.3 kPa (0.6 psia) measured at 38 °C (100 °F) (except when an internal drain rack cannot fit into the degreaser) - one of the following control devices, if the solvent volatility is greater than 4.3 kPa (0.6 psia) measured at 38 °C (100 °F), or if the solvent is heated about 49 °C (120 °F): <ul style="list-style-type: none"> - freeboard that gives a freeboard ratio greater than or equal to 0.70 - water cover (solvent must be insoluble in and heavier than water) - other systems of equivalent control, such as refrigerated chiller or carbon adsorption, approved by the Department - if used, a solvent spray that is a solid fluid stream not a fine, atomized, or shower-type spray) at a pressure which does not cause extensive splashing - a conspicuously displayed, permanent label that summarizes the operating requirements. <p>Verify that the cold cleaner meets the following operating requirements:</p> <ul style="list-style-type: none"> - the cover is closed at all times when parts are not being handled in the degreaser - cleaned parts are drained for at least 15 s after cleaning or until dripping ceases |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>1-33. (continued)</p> <p>1-34. Installations that generate open top vapor greasing equipment must meet specific equipment standards and operating requirements (WAC Sections NR 423.03(1), (2) and (4)).</p> | <ul style="list-style-type: none"> - waste solvent is stored in closed containers and not disposed of or transferred in ways that result in evaporative losses of greater than 15 percent during the ozone season - the degreaser is shut down until solvent leaks are repaired. <p>(NOTE: This regulation does not apply to open top vapor degreasers whose VOC emissions are not more than 6.8 kg (15 lb) in any one day, nor more than 1.4 kg (3.1 lb) in any 1 h, provided that the degreaser is located outside the counties of Brown, Calumet, Dane, Dodge, Fond du Lac, Jefferson, Kenosha, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha, and Winnebago.)</p> <p>Determine if the installation operates any open top vapor degreasers.</p> <p>Verify that the open top vapor degreaser is equipped with the following:</p> <ul style="list-style-type: none"> - a cover that can be opened or closed easily without disturbing the vapor zone - a condenser flow switch or other device that shuts off the sump heat if the condenser coolant either stops circulating or becomes warmer than specified - a control switch which shuts off the sump heat if the solvent vapor level rises above the designed operating level - for degreasers of the spray type: a spray safety switch that shuts off the spray pump if the solvent vapor level is outside the normal range - a conspicuously displayed, permanent label that lists the operating requirements. <p>Verify that the open top vapor degreaser meets the following operating requirements:</p> <ul style="list-style-type: none"> - ventilation fans are positioned in such a way so as not to disturb the vapor zone - exhaust ventilation during the ozone season does not exceed 20 m³/min/m² (65 ft³/min/ft²) of degreaser open area, unless necessary to meet Occupational Safety and Health Administration (OSHA) requirements - the degreaser cover is closed at all times when parts are not being processed through the degreaser - solvent is never sprayed above the vapor level - solvent carry-out is minimized by the following measures: <ul style="list-style-type: none"> - racking parts to facilitate drainage - moving parts in and out of the degreaser at less than 3.3 m/min (11 ft/min) - holding the work load in the vapor zone at least 30 s or until condensation ceases - tipping out any pools of solvent on the cleaned parts before removal - allowing parts to dry within the degreaser for at least 15 s or until visually dry |

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| 1-34. (continued) | <ul style="list-style-type: none"> - porous or absorbent materials such as cloth, leather, wood or rope are not degreased - if work loads occupy more than half of the degreaser's open top area, parts are moved in and out of the degreaser at less than 1.5 m/min (4.9 ft/min) - except when the load cannot be divided, the degreaser is not loaded to the point where the vapor level drops more than 10 cm (4 in.) - water is not detectable in the solvent exiting the water separator - waste solvent is stored in closed containers and not disposed of or transferred in ways that result in evaporative losses of greater than 15 percent during the ozone season - the degreaser is shut down until leaks are repaired. <p>Determine if the open top vapor degreaser opening is greater than 1.0 m² (10.8 ft²).</p> <p>Verify that each such degreaser is equipped with one of the following control devices:</p> <ul style="list-style-type: none"> - a freeboard ratio equal to or greater than 0.75, with a powered or mechanically assisted cover - a refrigerated chiller - enclosed design (cover or door opens only when the dry part is actually entering or exiting the degreaser) - a carbon adsorption system - another device approved by the Department. |
| 1-35. Installations that operate conveyorized vapor degreasing equipment must meet specific equipment standards (WAC Sections NR 423.03(1), (2) and (5)). | <p>(NOTE: This regulation does not apply to conveyorized vapor degreasers whose VOC emissions are not more than 6.8 kg (15 lb) in any one day, nor more than 1.4 kg (3.1 lb) in any 1 h, provided that the degreaser is located outside the counties of Brown, Calumet, Dane, Dodge, Fond du Lac, Jefferson, Kenosha, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha, and Winnebago.)</p> <p>Determine if the installation operates a conveyorized vapor degreaser.</p> <p>Verify that the conveyorized vapor degreaser is equipped with the following:</p> <ul style="list-style-type: none"> - minimized openings, that is, entrances and exits that silhouette workloads so that the average clearance between parts and the edge of the degreaser opening is either no more than 20 cm or no more than 20 percent of the width of the opening, whichever is smaller - a condenser flow switch or other device that shuts off the sump heat if the condenser coolant either stops circulating or becomes warmer than specified - a control switch which shuts off the sump heat if the solvent vapor level rises above the designed operating level |

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| 1-35. (continued) | <ul style="list-style-type: none"> - for degreasers of the spray type, a spray safety switch that shuts off the spray pump or the conveyor if the solvent vapor level is outside the normal range - downtime covers for closing off the entrance and exit during shutdown hours. <p>Verify that the conveyorized vapor degreaser meets the following operating requirements:</p> <ul style="list-style-type: none"> - down-time covers are placed over entrances and exits immediately after shutdown and not removed until just before startup - solvent carry-out is minimized by the following measures: <ul style="list-style-type: none"> - racking parts to facilitate drainage - using either a drying tunnel, rotating (tumbling) basket, or their equivalent - maintaining vertical conveyor speed at less than 3.3 m/min (11 ft/min) - ventilation fans are positioned in such a way so as not to disturb the vapor zone - exhaust ventilation during the ozone season does not exceed 20 m³/min/m² (65 ft³/min/ft²) of degreaser open area, unless necessary to meet OSHA requirements - water is not detectable in the solvent exiting the water separator - waste solvent is stored in closed containers and not disposed of or transferred in ways that result in evaporative losses of greater than 15 percent during the ozone season - the degreaser is shut down until leaks are repaired. <p>Determine if the conveyorized vapor degreaser has an air-vapor interface of 2.0 m² (21.6 ft²) or greater.</p> <p>Verify that each such degreaser is equipped with one of the following control devices:</p> <ul style="list-style-type: none"> - a refrigerated chiller - a carbon adsorption system - another device approved by the Department. |
| 1-36. Installations that operate conveyorized nonvapor degreasing equipment must meet specific equipment standards and operating requirements (WAC Sections NR 423.03(1), (2), and (6)). | <p>(NOTE: This regulation does not apply to conveyorized nonvapor degreasers whose VOC emissions are not more than 6.8 kg (15 lb) in any one day, nor more than 1.4 kg (3.1 lb) in any 1 h, provided that the degreaser is located outside the counties of Brown, Calumet, Dane, Dodge, Fond du Lac, Jefferson, Kenosha, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha, and Winnebago.)</p> <p>Determine if the installation operates a conveyorized nonvapor degreaser.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| 1-36. (continued) | <p>Verify that the conveyorized nonvapor degreaser is equipped with the following:</p> <ul style="list-style-type: none"> - minimized openings, that is, entrances and exits that silhouette workloads so that the average clearance between parts and the edge of the degreaser opening is either no more than 20 cm or no more than 20 percent of the width of the opening, whichever is smaller - a carbon adsorption system, or equivalent control system approved by the Department <p>(NOTE: This requirement does not apply to conveyorized nonvapor degreasers with a total horizontal solvent -- air interface smaller than 2.0 m² (21.6 ft²).)</p> <ul style="list-style-type: none"> - downtime covers for closing off the entrance and exit during shutdown hours. <p>Verify that the conveyorized nonvapor degreaser meets the following operating requirements:</p> <ul style="list-style-type: none"> - downtime covers are placed over entrances and exits immediately after shutdown and <i>not removed until just before startup</i> - solvent carry-out is minimized by the following measures: <ul style="list-style-type: none"> - arranging parts to facilitate drainage - using rollers to remove excess solvent in strip cleaning operations - waste solvent is stored in closed containers and not disposed of or transferred in ways that result in evaporative losses of greater than 15 percent during the ozone season - the degreaser is shut down until leaks are repaired. |
| GASOLINE DISPENSING FACILITIES - Storage Tank Loading | <p>1-37. Gasoline dispensing facilities must meet specific requirements regarding the transfer of gasoline into stationary storage tanks (WAC Sections NR 420.04(2)(a)(1), 420.04(3), and 425.03 (11)(a) and (c)).</p> <p>Determine if the installation operates any of the following types of facilities, transfer operations, or delivery vessels, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - gasoline dispensing facilities which are supplied exclusively by bulk plants whose stationary tanks have capacities of 2176 L (575 gal) or less - gasoline dispensing facilities that are located outside the counties of Brown, Calumet, Dane, Dodge, Door, Fond du Lac, Jefferson, Kenosha, Kewaunee, Manitowoc, Milwaukee, Outagamie, Ozaukee, Racine, Rock, Sheboygan, Walworth, Washington, Waukesha, and Winnebago |

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| <p>1-37. (continued)</p> <ul style="list-style-type: none"> - transfers at gasoline dispensing facilities to the following kinds of storage tanks: <ul style="list-style-type: none"> - any storage tank equipped with a Department-approved floating roof - any tank with a capacity of 7580 L (2000 gal) or less which was in place on or before 1 August 1979 - any tank with a capacity of 2176 L (575 gal) or less which was installed after 1 August 1979. <p>Verify that during gasoline transfers at dispensing facilities, the following requirements are met:</p> <ul style="list-style-type: none"> - the storage tank is equipped with a submerged fill pipe - a Department-approved vapor control system is in operation - there are no liquid leaks visible during loading or unloading - gauge pressure never exceeds 4.5 kPa (18 in. of H₂O), and vacuum never exceeds 1.5 kPa (6 in. of H₂O) in the gasoline tank truck - the tank truck displays a current tank test certification sticker. <p>Verify that vapor leaks are repaired and retested for vapor-tightness within 15 days of discovery.</p> <p>(NOTE: A vapor leak is any emission that produces a reading greater than or equal to 100 percent of the LEL at 2.5 cm from any point on the perimeter of a suspected or potential leak source.)</p> <p>Verify that the operator of each gasoline dispensing facility has written instructions describing the operation and maintenance of the vapor control system and notification requirements, and complies with those instructions.</p> <p>Verify that gauges, meters, and other testing devices are in good working order.</p> | |

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| GASOLINE DISPENSING FACILITIES - Motor Vehicle Fueling <p>1-38. Gasoline dispensing facilities must meet specific requirements regarding the transfer of gasoline into motor vehicle fuel tanks (WAC Sections NR 420.045(1) and (10), and 425.035(3)(c)).</p> <p>1-39. Gasoline dispensing facilities must meet specific vapor emission control equipment requirements (WAC Sections NR 420.045(2), (3), and (7)).</p> | <p>(NOTE: This regulation applies to all gasoline dispensing facilities located in the counties of Kenosha, Kewaunee, Manitowoc, Milwaukee, Ozaukee, Racine, Sheboygan, Washington, or Waukesha, which dispense more than 10,000 gal of gasoline per month.)</p> <p>Determine if the installation operates one of the following types of gasoline dispensing facilities, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - a dispensing facility used exclusively to fuel marine vehicles, aircraft, or snowmobiles - a dispensing facility with a throughput Exemption; that is, it never dispenses greater than 10,000 gal of gasoline per month, on average, for any 24-mo period beginning with calendar years 1991 and 1992, excluding any period of time when the facility was nonoperational. <p>Verify that any dispensing facility that has at least 2000 gal of stationary gasoline storage tank capacity and a throughput exemption submits to the Department an annual report of its monthly gasoline throughput.</p> <p>Verify that any exempt dispensing facility that loses its exempt status due to throughput increases submits a compliance plan to the Department and installs and operates approved vapor recovery equipment.</p> <p>Verify that the gasoline dispensing facility is equipped with a Department-approved vapor recovery system.</p> <p>(NOTE: All approved vapor recovery systems will be CARB-certified.)</p> <p>Verify that any dispensing equipment that has been tagged as defective by the Department is not used, and the tag not removed without written Departmental authorization.</p> <p>Verify that vapor recovery system is compliance tested before being put into service and annually thereafter.</p> |

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| <p>1-40. Gasoline dispensing facilities must meet specific operational requirements (WAC Sections NR 420.045(5) and (9)).</p> | <p>Verify that at least one employee at each gasoline dispensing facility has received Department-approved training in vapor recovery system operation and maintenance.</p> <p>Verify that if the only trained employee terminates employment at the facility, then another employee is completely trained within 45 days of that trained individual's departure.</p> <p>Verify that if the dispensing facility changes the type of vapor recovery system it uses, then at least one employee completes Department-approved training in the new system before the new system is started up.</p> <p>Verify that each gasoline dispenser is posted with all of the following information:</p> <ul style="list-style-type: none"> - operating instructions for the system, including a warning against topping off the fuel tank - the Department telephone number for vapor recovery system questions. |

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| <p>1-41. Gasoline dispensing facilities must meet specific maintenance and inspection requirements (WAC Sections NR 420.045(4) and (6)).</p> | <p>Verify that the gasoline dispensing equipment and vapor recovery system are free of all of the following defects:</p> <ul style="list-style-type: none"> - absence or disconnection of any required component of the CARB-certified system - a vapor hose that is blocked because it is crimped or flattened - a nozzle boot that is torn in one or more of the following ways: <ul style="list-style-type: none"> - triangular-shaped or similar tears 1/2 in. or more to a side - a hole 1/2 in. or more in diameter - a slit 1 in. or more in length - faceplate or flexible cone which is damaged in any of the following ways: <ul style="list-style-type: none"> - faceplate damage to the extent that the seal with fill pipe is affected for a total of 1/4 of the circumference of the faceplate - facecones which have more than 1/4 of the flexible cone missing - malfunctioning nozzle shutoff mechanisms - inoperative or severely malfunctioning vapor processing units - inoperative or severely malfunctioning vacuum producing devices - inoperative pressure/vacuum relief valves, vapor check valves, or dry breaks - any vapor recovery equipment which is not liquid tight and vapor tight - any other equipment defect that is identified as substantially impairing system effectiveness in the CARB-certification - any other defect which may reduce vapor recovery efficiency by 10 percent or more. <p>Verify that the gasoline dispensing facility is marked OUT-OF-SERVICE and not used if any of the above defects are present.</p> <p>Verify that weekly inspections are conducted that include all of the following:</p> <ul style="list-style-type: none"> - visual inspection of refueling operations to ensure that shut-off mechanisms are properly working - inspection of all boots, hoses, facecones and faceplates for tears or rips - visual inspection of all dispensing equipment for gasoline leaks - inspection of all delivery nozzles for tightness and bends which may impede vapor recovery. <p>Verify that only CARB-certified replacement parts are used to repair defective dispensing equipment.</p> |

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| <p>1-42. Nonexempt gasoline dispensing facilities must meet specific recordkeeping requirements (WAC Section NR 420.045(8)).</p> | <p>Verify that the dispensing facility keeps the following records on the premises for a minimum of 3 yr:</p> <ul style="list-style-type: none"> - all Departmental approvals or permits relating to facility or vapor recovery system operation - a maintenance and inspection log that includes all of the following: <ul style="list-style-type: none"> - name of persons who conducted each compliance inspection - dates of compliance inspections - identities of defective vapor recovery system parts - repair dates of defective parts - the manufacturer and manufacturer identification number of each replacement part used in any repair job - vapor recovery system compliance testing results - all compliance records, including warnings and notices of violation, issued by the Department - the quantity of gasoline dispensed at the facility on a monthly basis (this record is not required to be kept on facility premises). <p>Verify that the dispensing facility has a permanent record of employee training that includes all of the following:</p> <ul style="list-style-type: none"> - names of employees who received training - dates on which employees were in training - a list of the areas in which each employee has received training - the number of hours that each employee was trained. |
| <p>1-43. Gasoline dispensing facilities must meet specific throughput reporting requirements (WAC Sections NR 425.035(1) and (2)).</p> | <p>Verify that any gasoline dispensing facility in operation before 1 January 1993 submits to the Department a throughput report that includes the following information:</p> <ul style="list-style-type: none"> - facility owner, operator and operating address - date on which last construction or modification of the facility was completed - monthly gasoline throughput for 1991 and 1992, including indication of when during those years the facility was not in operation |
| <p>1-44. Gasoline dispensing facilities must meet specific compliance certification requirements (WAC Sections NR 425.035(3)).</p> | <p>Verify that any gasoline dispensing facility in operation before 15 May 1993 meets the following requirements:</p> <ul style="list-style-type: none"> - it submits a compliance plan to the Department - upon meeting the provisions of the compliance plan, it submits a certification of compliance to the Department. <p>(NOTE: Deadlines for compliance plan submission and certification of compliance vary depending upon size and age of the facility. By 1 January 1994, all gasoline dispensing facilities must have submitted compliance plans, and by 1 January 1995, all must have submitted compliance certifications.)</p> |

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| <p>1-44. (continued)</p> <p>PETROLEUM LIQUID STORAGE</p> <p>1-45. Installations that store petroleum liquids must meet specific emission control equipment requirements (WAC Sections NR 420.03(1) and (2)).</p> | <p>Verify that the gasoline dispensing facility, if it constructs or modifies its vapor recovery system on or after 15 May 1993, meets the following requirements:</p> <ul style="list-style-type: none"> - submits a compliance plan to the Department at least 60 days prior to starting the construction or modification - notifies the Department at least 5 working days before beginning the construction or modification - complies with all of the requirements of this Gasoline Dispensing Facilities - Motor Vehicle Fueling section before start-up and operation of the new or modified vapor recovery system - submits a certification of compliance to the Department within 45 days of start-up of the new or modified equipment. <p>Determine if the installation stores petroleum liquid in storage vessels having a capacity greater than 151,412 L (40,000 gal), on which construction or modification began before 1 July 1975.</p> <p>Determine if the installation uses any of the following types of storage vessels, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - vessels used for any of the following petroleum liquids: <ul style="list-style-type: none"> - No.2 through No.6 fuel oils (ASTM D396-89a) - gas turbine fuel oils numbers 2-GT through 4-GT (ASTM D2880-89) - diesel fuel oils numbers 2-D through 4-D (ASTM D975-89a) - pressure vessels designed to operate at pressures in excess of 104 kPa (15.08 psig) without emissions except under emergency conditions - subsurface caverns or porous rock reservoirs - underground tanks if the total volume of petroleum liquids added to and removed from the tank annually does not exceed twice the tank volume. <p>Verify that each vessel that stores petroleum liquid whose true vapor pressure is equal to or greater than 10.5 kPa (1.52 psia), but not greater than 77 kPa (11.1 psia) is equipped with one of the following emission control devices:</p> <ul style="list-style-type: none"> - floating roof - vapor recovery system - a Department-approved alternative. <p>Verify that each vessel that stores petroleum liquid whose true vapor pressure is greater than 77 kPa (11.1 psia) is equipped with a vapor recovery system or a Department-approved alternative.</p> |

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| <p>1-46. Installations that store petroleum liquids must meet specific recordkeeping requirements (WAC Sections NR 420.03(1) and (3)).</p> | <p>Determine if the installation stores any petroleum liquid in any storage vessel having a capacity greater than 151,412 L (40,000 gal), on which construction or modification began before 1 July 1975.</p> <p>Determine if the installation uses any of the following types of storage vessels, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - vessels used for any of the following petroleum liquids: <ul style="list-style-type: none"> - No.2 through No.6 fuel oils (ASTM D396-89a) - gas turbine fuel oils numbers 2-GT through 4-GT (ASTM D2880-89) - diesel fuel oils numbers 2-D through 4-D (ASTM D975-89a) - pressure vessels designed to operate at pressures in excess of 104 kPa (15 psig) without emissions except under emergency conditions - subsurface caverns or porous rock reservoirs - underground tanks if the total volume of petroleum liquids added to and removed from the tank annually does not exceed twice the tank volume. <p>Verify that the installation keeps records for each storage vessel, which contain the following information:</p> <ul style="list-style-type: none"> - the name, type, typical Reid vapor pressure and storage dates for each petroleum liquid stored - the dates on which the vessel is empty - the average monthly storage temperature and the true vapor pressure of the petroleum liquid stored at that temperature when one of the following conditions is met: <ul style="list-style-type: none"> - when a petroleum liquid with a true vapor pressure, as stored, greater than 3.5 kPa (0.51 psia) but less than 10.5 kPa (1.52 psia), is stored in a vessel not equipped with a floating roof, vapor recovery system or a Department-approved alternative - when a petroleum liquid with a true vapor pressure, as stored, greater than 63 kPa (9.1 psia) is stored in a vessel not equipped with a vapor recovery system or a Department-approved alternative. |
| <p>1-47. Installations that store petroleum liquids must meet specific equipment maintenance requirements (WAC Section NR 420.03(4)).</p> | <p>Determine if the installation stores any petroleum liquid with a true vapor pressure as stored of greater than 10.5 kPa (1.52 psia) in any storage vessel with a capacity greater than 7571 L (2000 gal).</p> <p>Verify that any tank surface that is exposed to the sun is painted white.</p> <p>Verify that the seals on any storage vessel equipped with floating roofs are in good condition and working order.</p> <p>Verify that all gauging and sampling devices are sealed vapor-tight when not in use.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>1-48. Installations that store petroleum liquids in fixed roof vessels must meet specific operating and tank design requirements (WAC Section NR 420.03(5)).</p> | <p>Determine if the installation stores any petroleum liquid with a true vapor pressure as stored of greater than 10.5 kPa (1.52 psia) in any storage vessel with a capacity greater than 151,412 L (40,000 gal).</p> <p>Verify that each such vessel is equipped with an internal floating roof, or a Department-approved alternative.</p> <p>Verify that there are no visible holes, tears or other openings in the seal or any seal fabric or materials.</p> <p>Verify that all openings, except stub drains, are equipped with covers, lids or seals, and that all of the following requirements are met:</p> <ul style="list-style-type: none"> - the cover, lid or seal is closed when the opening is not in use - automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports - rim vents, if provided, are set to open when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting. <p>Verify that all of the following inspections are conducted:</p> <ul style="list-style-type: none"> - inspections through roof hatches monthly during the ozone season - inspection of the cover and seal whenever the tank is emptied, but not more frequently than once every 6 mo nor less frequently than once every 8 yr. <p>Verify that the installation keeps, for a minimum of 2 yr, all of the following records:</p> <ul style="list-style-type: none"> - results of all required inspections - the storage records and true vapor pressure measurements called for by other requirements in this Petroleum Liquid Storage section. |
| <p>1-49. Installations that store petroleum liquids in external floating roof vessels must meet specific operating and tank design requirements (WAC Section NR 420.03(6)).</p> | <p>Determine if the installation stores any petroleum liquid in any storage vessel equipped with an external floating roof and having a capacity greater than 151,412 L (40,000 gal).</p> <p>Determine if the installation uses any of the following types of external floating roof vessels, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - vessels used to store waxy, heavy pour crude petroleum - vessels used solely for petroleum liquids with a true vapor pressure of less than 10.5 kPa (1.52 psia) - vessels that meet all of the following conditions: - vessels used solely for petroleum liquids with a true vapor pressure of less than 27.6 kPa (4.0 psia) <ul style="list-style-type: none"> - vessels of welded construction - vessels equipped with a metallic-type shoe seal, a liquid-mounted foam seal, a liquid-mounted liquid filled type seal, or a Department-approved equivalent alternative |

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| 1-49. (continued) | <ul style="list-style-type: none"> - vessels of welded construction that are equipped with a metallic-type primary seal and a secondary seal from the top of the shoe seal to the tank wall. <p>Verify that the storage vessel is equipped with one of the following:</p> <ul style="list-style-type: none"> - a continuous secondary seal from the floating roof to the tank wall - a Department-approved alternative. <p>Verify that there are no visible holes, tears or other openings in any seal or seal fabric or materials.</p> <p>Verify that seals are intact and uniformly in place around the circumference of the floating roof.</p> <p>Verify that, on any tank equipped with vapor-mounted seals, the accumulated area of gaps between the secondary seal and tank wall that exceed 0.32 cm (0.125 in.) in width, is not greater than $21.2 \text{ cm}^2/\text{m}$ ($1.00 \text{ in.}^2/\text{ft}$) of tank diameter.</p> <p>Verify that all openings in the external floating roof, except for automatic bleeder vents, meet all of the following conditions:</p> <ul style="list-style-type: none"> - they are equipped with covers, lids or seals that are kept closed when the openings are not in use - they are equipped with projections into the tank which remain below the liquid surface at all times. <p>Verify that automatic bleeder vents are closed at all times except when the roof is floated off or landed on the roof leg supports.</p> <p>Verify that rim vents are set to open only when the roof is being floated off the roof leg supports or at the manufacturer's recommended setting.</p> <p>Verify that each emergency roof drain is equipped with a slotted membrane fabric cover, or the equivalent, which covers at least nine-tenths of the area of the opening.</p> <p>Verify that all of the following inspections are conducted:</p> <ul style="list-style-type: none"> - during the ozone season, monthly routine visual inspections of all seals and seal closure devices - annual measurement of the secondary seal gap of vapor-mounted seals. <p>Verify that the installation keeps, for a minimum of 2 yr, the following records:</p> <ul style="list-style-type: none"> - results of all required inspections - the storage records and true vapor pressure measurements required by other protocols in this Petroleum Liquid Storage section. |

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| <p>1-50. Installations that store petroleum liquids in external floating roof vessels that are not required to be equipped with secondary seals must meet specific recordkeeping requirements (WAC Section NR 420.03(7)).</p> | <p>Determine if the installation stores any petroleum liquid with a true pressure greater than 7.0 kPa (1.0 psia), in any storage vessel that meets all of the following conditions:</p> <ul style="list-style-type: none"> - it is equipped with an external floating roof - its capacity is greater than 151,412 L (40,000 gal) - it is not required to be equipped with, and does not operate with, either of the following: <ul style="list-style-type: none"> - a continuous secondary seal from the floating roof to the tank wall - a Department-approved alternative. <p>Verify that the installation keeps, for a minimum of 2 yr, the following records for each such storage vessel:</p> <ul style="list-style-type: none"> - the average monthly storage temperature - the type of liquid stored - the throughput quantities - the maximum true vapor pressure of the stored liquid. |
| <p>PETROLEUM LIQUID STORAGE - New Stationary Source Performance Standards</p> <p>1-51. Installations that use petroleum liquid storage vessels built or modified between 11 June 1973 and 19 May 1978 must meet specific requirements (WAC Section NR 440.27).</p> | <p>Determine if the installation stores petroleum liquid in any storage vessel that meets one of the following conditions:</p> <ul style="list-style-type: none"> - a vessel with a capacity greater than 151,412 L (40,000 gal) and less than or equal to 246,052 L (65,000 gal), on which construction or modification began after 8 March 1974 and before 19 May 1978 - a vessel with a capacity greater than 246,052 L (65,000 gal), on which construction or modification began after 11 June 1973 and before 19 May 1978. <p>Determine if the installation uses any of the following types of vessels, which are exempt from these requirements:</p> <ul style="list-style-type: none"> - vessels used for any of the following petroleum liquids: <ul style="list-style-type: none"> - No.2 through No.6 fuel oils (ASTM D396-78) - gas turbine fuel oils numbers 2-GT through 4-GT (ASTM D2880-78) - diesel fuel oils numbers 2-D and 4-D (ASTM D975-78) - pressure vessels designed to operate at pressures in excess of 15 psig without emissions to the atmosphere except under emergency conditions - subsurface caverns or porous rock reservoirs - underground tanks if the total volume of petroleum liquids added to and removed from the tank annually does not exceed twice the tank volume. |

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| 1-51. (continued) | <p>Verify that each vessel that stores petroleum liquid whose true vapor pressure, as stored, is equal to or greater than 78 mm Hg (1.5 psia) but not greater than 570 mm Hg (11.1 psia), is equipped with one of the following emission control devices:</p> <ul style="list-style-type: none"> - floating roof - vapor recovery system - a Department-approved alternative. <p>Verify that each vessel that stores petroleum liquid whose true vapor pressure, as stored, is greater than 570 mm Hg (11.1 psia) is equipped with one of the following emission control devices:</p> <ul style="list-style-type: none"> - vapor recovery system - a Department-approved alternative. <p>Verify that the installation keeps, for each petroleum liquid stored in every storage vessel other than those equipped with a vapor recovery and return or disposal system, a record of the following:</p> <ul style="list-style-type: none"> - the name of the petroleum liquid stored - the storage period of that petroleum liquid - the maximum true vapor pressure of that liquid during that storage period. |
| 1-52. Installations that operate petroleum liquid storage vessels built or modified after 18 May 1978 must meet specific emission control requirements. (WAC Section NR 440.28). | <p>Determine if the installation stores any petroleum liquid in any storage vessel having a capacity greater than 151,412 L (40,000 gal) on which construction or modification began after 18 May 1978.</p> <p>Determine if the installation uses any of the following types of storage vessels, which are exempt from these requirements:</p> <ul style="list-style-type: none"> - vessels used for any of the following petroleum liquids: <ul style="list-style-type: none"> - No.2 through No.6 fuel oils (ASTM D396-78) - gas turbine fuel oils numbers 2-GT through 4-GT (ASTM D2880-78) - diesel fuel oils numbers 2-D and 4-D (ASTM D975-78) - pressure vessels designed to operate at pressures in excess of 204.9 kPa without emissions except under emergency conditions - subsurface caverns or porous rock reservoirs - underground tanks if the total volume of petroleum liquids added to and removed from the tank annually does not exceed twice the tank volume. <p>Verify that each vessel that stores petroleum liquid whose true vapor pressure, as stored, is equal to or greater than 10.3 kPa (1.5 psia) but not greater than 76.6 kPa (11.1 psia), is equipped with one of the following emission control devices:</p> <ul style="list-style-type: none"> - an external floating roof - a fixed roof with an internal floating-type cover |

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| 1-52. (continued) | <ul style="list-style-type: none"> - a vapor recovery and return or disposal system - a Department-approved alternative. <p>Verify that each vessel that stores petroleum liquid whose true vapor pressure, as stored, is greater than 76.6 kPa (11.1 psia), is equipped with a vapor recovery and return or disposal system, or a Department-approved alternative.</p> <p>Verify that the installation keeps, for each petroleum liquid stored in every storage vessel other than those equipped with a vapor recovery and return or disposal system, a record of all of the following:</p> <ul style="list-style-type: none"> - the name of the petroleum liquid stored - the storage period of that petroleum liquid - the maximum true vapor pressure of that liquid during that storage period. |
| 1-53. Installations that operate petroleum liquid storage vessels built or modified after 18 May 1978 and equipped with an external floating roof must meet specific operating and maintenance requirements (WAC Section NR 440.28(3)(a)(1) and 440.28(4)(a)(1)). | <p>Determine if the installation uses any of the following types of petroleum liquid storage vessels, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - built or modified since 18 May 1978 - equipped with an external floating roof in order to comply with other requirements of this Petroleum Liquid Storage - New Stationary Source Performance Standards section. <p>Verify that each external floating roof is equipped with both primary and secondary seals.</p> <p>Verify that there are no visible holes, tears or other openings in any seal or seal fabric or materials.</p> <p>Verify that all openings in the external floating roof, except for automatic bleeder vents, rim space vents, and leg sleeves, are equipped with covers, lids or seals that are kept closed, with no visible gaps, when the openings are not in use.</p> <p>Verify that automatic bleeder vents are kept closed when the roof is being floated off or landed on the roof leg supports.</p> <p>Verify that rim vents are set to open when the roof is being floated off the roof leg supports, or at the manufacturer's recommended settings.</p> <p>Verify that each emergency roof drain is equipped with a slotted membrane fabric cover which covers at least 90 percent of the area of the opening.</p> |

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| 1-53. (continued) | <p>Verify that the external floating roof of each in-service tank is off the roof leg supports and floating on the surface of the contained liquid at all times except when all of the following conditions are met:</p> <ul style="list-style-type: none"> - the tank is being filled for the first time or being completely emptied and refilled - the process of filling, or of emptying and refilling, is continuous and is being accomplished as rapidly as possible. <p>Verify that seal gap measurements are conducted to meet all of the following requirements:</p> <ul style="list-style-type: none"> - for both primary and secondary seals: gap measurements within 60 days after initial fill or after refill of a tank that was out of service for 1 yr or more - for primary seals: followup gap measurements at least once every 5 yr thereafter - for secondary seals: followup gap measurements at least once every year thereafter. <p>Verify that the installation notifies the Department at least 30 days prior to conducting any gap measurement.</p> <p>Verify that all primary seal gap measurements or inspections that require removal or dislodgement of the secondary seal are accomplished as rapidly as possible, with the secondary seal replaced as soon as possible.</p> <p>Verify that the installation keeps records of seal gap measurements.</p> <p>Verify that the installation has reported to the Department, within 60 days of measurement, each vessel whose seal gaps exceed the limits listed in Appendix 1-6.</p> |
| 1-54. Installations that operate petroleum liquid storage vessels built or modified after 18 May 1978 and equipped with a fixed roof with an internal floating-type cover must meet specific operating and maintenance requirements (WAC Section NR 440.28(3)(a)(2)). | <p>Determine if the installation operates any petroleum liquid storage vessels that meet all of the following conditions:</p> <ul style="list-style-type: none"> - it has been built or modified since 18 May 1978 - it is equipped with a fixed roof with an internal floating-type cover in order to comply with other requirements of this Petroleum Liquid Storage - New Stationary Source Performance Standards section. <p>Verify that all openings in the cover, except for automatic bleeder vents, rim space vents, stub vents, and leg sleeves, are equipped with covers, lids or seals that are kept closed, with no visible gaps, when the openings are not in use.</p> <p>Verify that automatic bleeder vents are kept closed at all times when the cover is floating, except when it is being floated off or landed on the leg supports.</p> <p>Verify that rim vents are set to open only when the cover is being floated off the leg supports, or at the manufacturer's recommended settings.</p> |

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| 1-54. (continued) | <p>Verify that the internal floating-type cover of each in-service tank is off the leg supports and floating on the surface of the contained liquid at all times except when all of the following conditions are met:</p> <ul style="list-style-type: none"> - the tank is being filled for the first time or being completely emptied and refilled - the process of filling, or of emptying and refilling, is continuous and is being accomplished as rapidly as possible. |
| 1-55. Installations that operate petroleum liquid storage vessels built or modified after 18 May 1978 and equipped with a vapor recovery system must meet specific notification requirements (WAC Section NR 440.28(4)(a)(2)). | <p>Determine if the installation operates any petroleum liquid storage vessels that meet all of the following conditions:</p> <ul style="list-style-type: none"> - it has been built or modified since 18 May 1978 - it is equipped with a vapor recovery and return or disposal system in order to comply with other requirements of this Petroleum Liquid Storage - New Stationary Source Performance Standards section. <p>Verify that the installation notified the Department on or before beginning the construction of the vessel and provided it with information on the vapor recovery system installed.</p> |
| PRINTING PRFSS OPERATIONS - General Requirements | |
| 1-56. Installations that operate printing facilities must meet specific operating requirements (WAC Sections NR 422.03(4) and NR 422.14). | <p>Determine if the installation operates any of the following types of printing facilities, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - packaging rotogravure, publication rotogravure, or flexographic printing facilities that emit, with all emission control equipment inoperative, less than or equal to 100 tons/yr of VOCs. <p>Verify that the installation operates the printing facilities only if one of the following conditions is met:</p> <ul style="list-style-type: none"> - the volatile fraction of ink contains 25 percent or less by volume of organic solvent and 75 percent or more by volume water - the ink, less water, contains 60 percent or more by volume nonvolatile material - the installation operates one of the following: <ul style="list-style-type: none"> - a vapor recovery system which reduces VOC emissions from the capture system by at least 90 percent by weight - an incineration or catalytic oxidation system, provided that 90 percent of the nonmethane VOC (VOC measured as total combustible carbon) which enters the incinerator or oxidation unit are oxidized to nonorganic compounds - an alternative VOC emission reduction system demonstrated by have at least 90 percent reduction efficiency and approved by the Department. |

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| 1-56. (continued) | <p>Verify that the efficiency of the capture system meets the following standards:</p> <ul style="list-style-type: none"> - 75 percent where a publication rotogravure process is employed - 70 percent where a packaging rotogravure process is employed - 65 percent where a flexographic printing process is employed. |
| PRINTING PRESS OPERATIONS - New Source Performance Standards | <p>Determine if the installation operates any publication rotogravure printing presses on which construction, modification, or reconstruction began after 28 October 1980.</p> <p>(NOTE: Proof presses are exempt from these requirements.)</p> <p>Verify that the installation conducts Department-approved performance tests on each such press.</p> <p>Verify that records of performance test results are kept for a minimum of 2 yr.</p> <p>Verify that performance test results show that the amount of VOC discharged into the atmosphere from any one press is not greater than 16 percent of the total mass of VOC solvents and water contained in the inks and coatings used in that press during the performance averaging period.</p> |
| VOLATILE ORGANIC LIQUID (VOL) STORAGE - General Requirements | <p>Determine if the installation stores any VOL in any storage vessels with capacities of 40,000 L or more on which construction, reconstruction or modification began after 23 July 1984.</p> <p>Determine if the installation uses any of the following types of vessels, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - pressure vessels designed to operate at pressures in excess of 204.9 kPa without emissions to the atmosphere - vessels permanently attached to mobile vehicles such as trucks, railcars, barges or ships - vessels located at any gasoline distribution facility that has a gasoline throughput of less than or equal to 75,700 L/day - storage vessels located at gasoline service stations - subsurface caverns or porous rock reservoirs. |
| 1-58. Installations that operate VOL storage vessels must meet specific recordkeeping requirements (WAC Sections NR 440.285(1), and 440.285(7)(a) and (b)). | |

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| <p>1-58. (continued)</p> <p>VOLATILE ORGANIC LIQUID (VOL) STORAGE - Regulated Storage Vessels</p> <p>1-59. Installations that operate VOL storage vessels must meet specific monitoring and recordkeeping requirements (WAC Sections NR 440.285(1), and (7)).</p> | <p>Verify that the installation keeps, readily accessible and for the life of the vessel, records that show the dimensions and storage capacity of each VOL storage vessel.</p> <p>Determine if the installation stores any VOL in any storage vessels on which construction, reconstruction or modification began after 23 July 1984.</p> <p>Determine if the installation uses any of the following types of vessels, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - any storage vessel with a capacity of less than 75,000 L - any storage vessel with a capacity of 151,000 L or more and storing a VOL with a maximum true vapor pressure less than 3.5 kPa (0.51 psia) - any storage vessel with a capacity of 75,000 L or more but less than 151,000 L, and storing a VOL with a maximum true vapor pressure less than 15.0 kPa (2.17 psia) - any storage vessel that is equipped with a Department-approved closed vent system and control device - pressure vessels designed to operate at pressures in excess of 204.9 kPa without emissions to the atmosphere - vessels permanently attached to mobile vehicles such as trucks, railcars, barges or ships - vessels located at bulk gasoline plants - storage vessels located at gasoline service stations - subsurface caverns or porous rock reservoirs. <p>Verify that the installation keeps, for a minimum of 2 yr, a record of each VOL stored, its period of storage, and the maximum true vapor pressure of that VOL during that storage period for each storage vessel that meets any of the following conditions:</p> <ul style="list-style-type: none"> - any storage vessel with a capacity of 151,000 L or more and storing a VOL with a maximum true vapor pressure of 3.6 kPa (0.52 psia) or greater - any storage vessel with a capacity of 75,000 L or more but less than 151,000 L, and storing a VOL with a maximum true vapor pressure of 15.0 kPa (2.17 psia) or greater. |

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| <p>1-59. (continued)</p> <p>1-60. Installations that operate VOL storage vessels must meet specific vapor emission control equipment requirements (WAC Sections NR 440.285(1), (3), and (5)).</p> | <p>Verify that the installation notifies the Department within 30 days when the maximum true vapor pressure of the stored VOL in any of the following storage vessels exceeds the normal values listed:</p> <ul style="list-style-type: none"> - any storage vessel that has a capacity of 151,000 L or more, and that is storing a VOL with a maximum true vapor pressure that is normally less than 5.2 kPa (0.75 psia) - any storage vessel that has a capacity of 75,000 L or more but less than 151,000 L, and that is storing a VOL with a maximum true vapor pressure that is normally less than 27.6 kPa (4.00 psia). <p>Determine if the installation stores any VOL in any storage vessel with a capacity of 75,000 L or more, on which construction, reconstruction or modification began after 23 July 1984.</p> <p>Determine if the installation uses any of the following types of vessels, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - pressure vessels designed to operate at pressures in excess of 204.9 kPa without emissions to the atmosphere - vessels permanently attached to mobile vehicles such as trucks, railcars, barges or ships - vessels located at bulk gasoline plants - storage vessels located at gasoline service stations - subsurface caverns or porous rock reservoirs. <p>Verify that each vessel that stores a VOL whose maximum true vapor pressure, as stored, is greater than 76.6 kPa (11.1 psia) is equipped with one of the following emission control devices:</p> <ul style="list-style-type: none"> - a closed vent system and control device - a Department-approved alternative. <p>Determine if the installation uses any storage vessel that meets one of the following conditions:</p> <ul style="list-style-type: none"> - capacity of 151,000 L or more, and storing a VOL with a maximum true vapor pressure greater than 5.2 kPa (0.75 psia) but less than 76.6 kPa (11.1 psia) - capacity of 75,000 L or more but less than 151,000 L, and storing a VOL with a maximum true vapor pressure greater than 27.6 kPa (4.00 psia) but less than 76.6 kPa (11.1 psia). <p>Verify that each such storage vessel is equipped with one of the following:</p> <ul style="list-style-type: none"> - a fixed roof with an internal floating roof - an external floating roof - a closed vent system and control device - a Department-approved alternative. |

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| <p>1-61. Installations that operate VOL storage vessels built or modified after 23 July 1984, and equipped with required vapor emission control equipment must meet specific notification requirements (WAC Sections NR 440.285(6)(a)(1) and (6)(b)(1)).</p> | <p>Determine if the installation uses any VOL storage vessels that meet all of the following conditions:</p> <ul style="list-style-type: none"> - it has undergone construction, reconstruction or modification which commenced after 23 July 1984 - it is equipped with one of the following types of vapor emission control equipment: <ul style="list-style-type: none"> - a fixed roof with an internal floating roof - an external floating roof. <p>Verify that the installation has submitted a report to the Department that describes and certifies this control equipment.</p> <p>Verify that the installation keeps a copies of all such reports for at least 2 yr.</p> |
| <p>1-62. Installations that operate a VOL storage vessel that is equipped with a fixed roof with an internal floating roof must meet specific operating and maintenance requirements (WAC Sections NR 440.285(1) and (3)(a)(1)).</p> | <p>Determine if the installation uses any VOL storage vessels that meet all of the following conditions:</p> <ul style="list-style-type: none"> - it has undergone construction, reconstruction or modification which commenced after 23 July 1984 - it is equipped with a fixed roof with an internal floating roof. <p>Verify that all openings in the internal floating roof, except for leg sleeves, automatic bleeder vents, rim space vents, stub drains, column wells, sample wells, and ladder wells, are equipped with gasketed covers or lids that are kept closed, with no visible gaps, when the opening is not in use.</p> <p>Verify that covers on all access hatches and automatic gauge float wells are bolted when the openings are not in use.</p> <p>Verify that each automatic bleeder vent is equipped with a gasket, and is kept closed at all times when the roof is floating, except when it is being floated off or landed on the leg supports.</p> <p>Verify that each rim space vent is equipped with a gasket, and is set to open only when the internal roof is not floating, or at the manufacturer's recommended settings.</p> <p>Verify that each sample well is equipped with a slit fabric cover which covers at least 90 percent of the area of the opening.</p> <p>Verify that each column well is equipped with a flexible fabric sleeve seal or with a gasketed sliding cover.</p> <p>Verify that each ladder well is equipped with with a gasketed sliding cover.</p> |

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| <p>1-62. (continued)</p> <p>1-63. Installations that use a VOL storage vessel that is equipped with a fixed roof with an internal floating roof must meet specific equipment inspection requirements (WAC Sections NR 440.285(1), (3)(a)(1), (4)(a), and (6)(a)(2) through (4)).</p> | <p>Verify that the internal floating roof of each in-service tank is off the leg supports and floating on the surface of the contained liquid at all times except when all of the following conditions are met:</p> <ul style="list-style-type: none"> - the tank is being filled for the first time or being completely emptied and refilled - the process of filling, or of emptying and refilling, is continuous and is being accomplished as rapidly as possible. <p>Determine if the installation uses any VOL storage vessel that meets all of the following conditions:</p> <ul style="list-style-type: none"> - it has undergone construction, reconstruction or modification which commenced after 23 July 1984 - it is equipped with a fixed roof with an internal floating roof. <p>Verify that the installation meets all of the following requirements for each such VOL storage vessel:</p> <ul style="list-style-type: none"> - the vessel is visually inspected on all of the following occasions: <ul style="list-style-type: none"> - before a newly constructed vessel is filled for the first time - whenever an in-service storage vessel is emptied and degassed - holes, tears, or other openings in the seals or seal fabrics, and any other defects discovered during this required visual inspection are repaired before the vessel is filled or refilled - the Department is notified by writing at least 30 days before filling or refilling any vessel that has undergone this required visual inspection. <p>Verify that each in-service storage vessel is emptied, degassed, and visually inspected according to the following schedule:</p> <ul style="list-style-type: none"> - for each vessel that is equipped with a liquid-mounted or mechanical shoe primary seal: at least once every 10 yr - for each vessel that is equipped with a double-seal system: at least once every 5 yr. <p>Verify that the installation meets all of the following requirements for each in-service VOL storage vessel:</p> <ul style="list-style-type: none"> - the internal floating roof, primary seal, and secondary seal (if the vessel is so equipped) are visually inspected through manholes and roof hatches on the fixed roof at least annually after initial fill - all defects that are discovered during this annual inspection are dealt with as follows: <ul style="list-style-type: none"> - they are reported to the Department within 30 days of their discovery - they are repaired, or the tank is emptied, within 45 days of their discovery. |

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| 1-63. (continued) | <p>Verify that the installation keeps, for a minimum of 2 yr, a record of each required VOL storage vessel inspection that includes all of the following information:</p> <ul style="list-style-type: none">- storage vessel identification- date of inspection- observed condition of each emission control system component inspected, e.g., seals, fittings, floating roof, etc. |
| 1-64. Installations that operate a VOL storage vessel that is equipped with an external floating roof must meet specific operating and maintenance requirements (WAC Sections NR 440.285(1) and (3)(a)(2)). | <p>Determine if the installation operates any VOL storage vessels that meet all of the following conditions:</p> <ul style="list-style-type: none">- it has undergone construction, reconstruction or modification which commenced after 23 July 1984- it is equipped with an external floating roof. <p>Verify that each external floating roof is equipped with both primary and secondary seals.</p> <p>Verify that all openings in the external floating roof, except for automatic bleeder vents, rim space vents, roof drains, and leg sleeves, are equipped with gasketed covers, lids or seals that are kept closed, with no visible gaps, when the openings are not in use.</p> <p>Verify that automatic bleeder vents are gasketed, and are kept closed at all times when the roof is floating, except when the roof is being floated off or landed on the roof leg supports.</p> <p>Verify that rim vents are gasketed, and are set to open when the roof is being floated off the roof leg supports, or at the manufacturer's recommended settings.</p> <p>Verify that each emergency roof drain is equipped with a slotted membrane fabric cover which covers at least 90 percent of the area of the opening.</p> <p>Verify that the external floating roof of each in-service tank is off the roof leg supports and floating on the surface of the contained liquid at all times except when all of the following conditions are met:</p> <ul style="list-style-type: none">- the tank is being filled for the first time or being completely emptied and refilled- the process of filling, or of emptying and refilling, is continuous and is being accomplished as rapidly as possible. |

COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
Wisconsin Supplement

| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|--|--|
| <p>1-65. Installations that operate a VOL storage vessel that is equipped with an external floating roof must meet specific equipment inspection requirements (WAC Sections NR 440.285(1), (3)(a)(2), (4)(b), and (6)(b)(2) through (4)).</p> | <p>Determine if the installation operates any VOL storage vessels that meet all of the following conditions:</p> <ul style="list-style-type: none"> - it has undergone construction, reconstruction or modification which commenced after 23 July 1984 - it is equipped with an external floating roof. <p>Verify that seal gap measurements are being conducted to meet all of the following requirements:</p> <ul style="list-style-type: none"> - for both primary and secondary seals: gap measurements within 60 days after initial fill of a new tank, or after refill of a tank that was out of service for 1 yr or more - for primary seals: followup gap measurements at least once every 5 yr thereafter - for secondary seals: followup gap measurements at least once every year thereafter. <p>Verify that the installation notifies the Department at least 30 days prior to conducting any gap measurement.</p> <p>Verify that the installation keeps records of seal gap measurements.</p> <p>Verify that the installation reports all of the following seal gap information to the Department within the time limits listed:</p> <ul style="list-style-type: none"> - the seal gap measurements required to be taken after initial fill of new tanks and after refill of existing tanks which have been out of service for 1 yr or more: within 60 days of measurement - each vessel whose seal gaps exceed the limits listed in Appendix 1-6, Part II: within 30 days of measurement. <p>Verify that the installation either repairs or empties a storage vessel within 45 days of discovery, during any inspection or gap measurement, of any of the following defects:</p> <ul style="list-style-type: none"> - holes, tears, or other openings in the shoes, seals, or seal fabric or materials - seal gaps that exceed the limits listed in Appendix 1-6, Part II. <p>Verify that the installation meets all of the following requirements for each in-service storage vessel:</p> <ul style="list-style-type: none"> - it visually inspects the vessel's external floating roof, primary seal, secondary seal, and fittings each time it is emptied and degassed - it repairs all holes, tears, or other openings in the seals or seal fabrics, and any other defects discovered during this required visual inspection before the vessel is filled or refilled - it notifies the Department by writing at least 30 days before filling or refilling any vessel that has undergone this required visual inspection. |

COMPLIANCE CATEGORY:
CLEAN AIR ACT (CAA)
Wisconsin Supplement

| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|--|--|
| <p>1-66. Installations that operate a VOL storage vessel that is equipped with a closed vent system and a control device must meet specific requirements (WAC Sections NR 440.285(1), (3)(a)(3), (4)(c), and (6)(c)).</p> | <p>Determine if the installation operates any VOL storage vessels that meet all of the following conditions:</p> <ul style="list-style-type: none">- it has undergone construction, reconstruction or modification which commenced after 23 July 1984- it is equipped with an closed vent system and a control device (other than a flare). <p>Verify that it operates the vessel and the control devices in compliance with the provisions of a Department-approved operating plan.</p> <p>Verify that it keeps all of the following records:</p> <ul style="list-style-type: none">- a copy of the operating plan for the life of the control equipment- monitoring records for a minimum of 2 yr. |

Appendix 1-1

Exemptions From The Construction or Modification and New Operation Permit Requirements

(Source: WAC Sections NR 406.04, NR 419.07, NR 445.02(6), and NR 445.04; WSA Sections 144.391(4) and (5) And WAC Section NR 406.06(a); WSA Sections 144.391(4) and (5))

Part A - Exempt Direct Sources (WAC Sections NR 406.04, NR 419.07, NR 445.02(6), and NR 445.04; WSA Sections 144.391(4) and (5))

1. The following categories of direct sources are exempt from the requirement to obtain a construction or modification and new operation permit:
 - fuel burning equipment designed to burn the following fuels at the rates indicated:
 - coal, coke or other solid fuels, except wood, at a heat input rate of not more than 1.0 MBtu/h
 - wood, alone or in combination with gaseous or liquid fuels at a heat input rate of not more than 5.0 MBtu/h
 - residual or crude oil at a heat input rate of not more than 5.0 MBtu/h
 - distillate oil at a heat input rate of not more than 10 MBtu/h
 - gaseous fuel at a heat input rate of 30 MBtu/h
 - equipment designed to incinerate solid wastes, which are neither pathological wastes nor hazardous wastes, at a rate of not more than 500 lb/h
 - storage tanks, of 40,000 gal capacity or less, which contain petroleum liquid or organic compounds which are not VOC
 - VOC storage tanks of 10,000 gal capacity or less
 - graphic arts operations, including associated cleaning operations, which use 250 gal or less per month of coatings, inks and solvents or which emit 1666 lb or less per month of organic compounds
 - water chlorination facilities
 - any of the following procedures for the remediation of soil or water contaminated with organic compounds, provided that the potential emissions of any hazardous air contaminants are below the levels specified by the Department:
 - landspreading or landfilling of contaminated soil
 - negative pressure venting of contaminated soil, or pilot testing thereof
 - application of biodegradation techniques to contaminated soil
 - devices used to remove organic compounds from a private or municipal water supply
 - crop irrigating systems or dewatering wells used to remediate contaminated water
 - air strippers used to treat contaminated water
 - any other device or technique used to remediate soil or water contaminated with organic compounds, provided it is not portable and is not a thermal evaporation unit
 - any other device or technique used to comply with applicable requirements of *Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) 1980* (42 U.S. Code (USC) Sections 9601 et seq.)

Appendix 1-1 (continued)

2. In addition, any direct sources that meet at least one of the following conditions is exempt:

- the source will not emit any of the following contaminants at rates in excess of the following:
 - SO₂, 9.0 lb/h
 - CO, 9.0 lb/h
 - NO_x, 9.0 lb/h
 - particulate matter, 5.7 lb/h
 - organic compounds, 5.7 lb/h
 - PM₁₀, 3.4 lb/h
 - lead, 0.13 lb/h
- the source will not emit any of the following contaminants at rates in excess of those listed:
 - fluorides, 3.0 tons/yr
 - hydrogen sulfide, 10 tons/yr
 - reduced sulfur compounds, 10 tons/yr
 - total reduced sulfur, 10 tons/yr
 - vinyl chloride, 1.0 ton/yr
- the source's potential emissions of any hazardous air contaminants are not greater than emission rates set by the Department
- the source does not combust municipal solid waste or infectious wastes
- the source does not emit any other air contaminant not mentioned above at a rate greater than 6.0 lb/h
- the source is not required to obtain a permit due to incremental growth as detailed in Part A.6 of this Appendix.

3. The following modifications are exempt:

- use of an alternate fuel or raw material which the source is designed to burn or use, provided that all of the following conditions are met:
 - the source has continuously had such design capability as a result of construction or modification which commenced before 1 April 1972
 - the use will not cause or exacerbate the violation of an ambient air quality standard or an ambient air increment
 - the use is not prohibited by any permit, plan approval or special order
 - the source has an air pollution control permit which regulates emission of a hazardous air contaminant
- the source meets the requirements of a RACT compliance plan or RACT variance such resumption will not:
 - cause or exacerbate the violation of an ambient air quality standard or an ambient air increment
 - result in the emission of a new air contaminant
 - violate any permit, plan approval or special order
- the addition of a new emission unit or other modification provided that all of the following conditions are met:
 - the modification is not prohibited by any permit, plan approval or special order
 - the modification is exempt under the provisions of this Appendix, Part A.1 or Part A.2
 - the source is not required to obtain a permit due to incremental growth as detailed in Part A.6 of this Appendix

Appendix 1-1 (continued)

- routine maintenance or repair
- all of the following changes in operation, provided that the change is not prohibited by any permit, plan approval or special order, and that it will not cause or exacerbate the violation of an ambient air quality standard or an ambient air increment:
 - an increase in production rate provided that the operating design capacity of the source is not exceeded
 - an increase in the hours of operation of the source
 - a change in ownership of the source.

4. The following relocations are exempt:

- a relocation that has been approved by the Department
- the relocation of an emissions unit within the contiguous property of an attainment area major source
- the relocation of an emissions unit within the contiguous property of a minor source or of an nonattainment area major source provided that all of the following conditions are met:
 - the relocation is not prohibited by any permit, plan approval or special order
 - the emissions unit will not be modified
 - the emissions unit meets all applicable emission limitations
 - the emissions unit's stack height or stack gas exit velocity or temperature will not be decreased, or the allowable emissions from the relocated source will not cause or exacerbate the violation of an ambient air quality standard or an ambient air increment.

5. The replacement of a source is exempt provided that all of the following conditions are met:

- the replacement is only for a portion of a basic emissions unit
- the replacement is not prohibited by any permit, plan approval or special order
- the essential components of the basic emissions unit are not replaced through several partial replacements within a 12-mo period.

6. Regardless of its eligibility for exemptions listed in Part A.1 through Part A.5 above, an installation that constructs or modifies a source in increments which individually are exempt from permit requirements, is required to obtain a permit prior to construction or modification of the increment which, in combination with the other increments occurring since 1 July 1975 or since the date of the last air pollution control permit or plan approval issued to the source, whichever is later, will result in emissions of any of the following air contaminants at rates in excess of those listed:

- SO₂, 9.0 lb/h
- CO, 9.0 lb/h
- NO_x, 9.0 lb/h
- particulate matter, 5.7 lb/h
- organic compounds, 5.7 lb/h
- fluorides, 3.0 tons/yr
- hydrogen sulfide, 10 tons/yr
- reduced sulfur compounds, 10 tons/yr
- total reduced sulfur, 10 tons/yr
- vinyl chloride, 1.0 ton/yr.

Appendix 1-1 (continued)

Part B - Exempt Indirect Sources (WAC Section NR 406.06(a); WSA Sections 144.391(4) and (5))

1. The following categories of indirect sources are exempt unless the construction or modification of the source is prohibited by any permit, plan approval or special order, or unless the source is required to obtain a permit due to incremental growth as detailed in Part B.3 of this Appendix:
 - an indirect source that meets any of the following conditions, unless it is a road or highway project:
 - a new indirect source located in a metropolitan county with a parking capacity of less than 1000 cars in its associated parking areas
 - a modified indirect source located in a metropolitan county with a parking capacity increase of less than 1000 cars in its associated parking areas
 - a new indirect source located outside the metropolitan counties with a parking capacity of less than 1500 cars in its associated parking areas
 - a modified indirect source located outside the metropolitan counties with a parking capacity increase of less than 1500 cars in its associated parking areas.
2. The following modifications are exempt:
 - routine maintenance or repair
 - a change in ownership of the source, provided that the change is not prohibited by any permit, plan approval or special order, and that it will not cause or exacerbate the violation of an ambient air quality standard or an ambient air increment
 - resumption of operation of a source after a period of closure, provided that such resumption will not:
 - cause or exacerbate the violation of an ambient air quality standard or an ambient air increment
 - result in the emission of a new air contaminant
 - violate any permit, plan approval or special order.
3. Regardless of its eligibility for exemptions listed in Parts B.1 and B.2 above, an installation that constructs or modifies a source in increments which individually are exempt from permit requirements, is required to obtain a permit prior to construction or modification of the increment which, in combination with the other increments occurring since 1 July 1975 or since the date of the last air pollution control permit or plan approval issued to the source, whichever is later, will cause the applicable permit exemption criteria listed in Part B.1 to be exceeded.

Appendix 1-2

Exemptions From the Mandatory Operation Permit Requirements (WAC Section NR 407.03(1) and WAC Sections NR 407.03(2))

Part A - Specific Categories of Exempt Sources (WAC Section NR 407.03(1))

Any stationary source which consists solely of one of the following categories is exempt from the requirement to obtain a mandatory operation permit:

- any fuel burning equipment at a facility that does not burn hazardous waste unless it is a licensed hazardous waste management unit, and which is designed at combined total capacity to burn the following fuels at the rates indicated:
 - coal, coke or other solid fuels, except wood, at a heat input rate of not more than 1.0 MBtu/h
 - wood, alone or in combination with gaseous or liquid fuels, at a heat input rate of not more than 5.0 MBtu/h
 - residual or crude oil, at a heat input rate of not more than 5.0 MBtu/h
 - distillate oil, at a heat input rate of not more than 10 MBtu/h
 - gaseous fuel, at a heat input rate of not more than 30 MBtu/h
- equipment designed to incinerate solid wastes, which are not pathological wastes or hazardous wastes, at a rate of not more than 500 lb/h
- storage tanks, of 40,000 gal capacity or less, which contain petroleum liquid or organic compounds which are not VOC
- VOC storage tanks with a combined total tankage capacity of 10,000 gal or less
- painting or coating operations, including associated quality assurance laboratories and cleaning operations, which use less than 250 gal/mo of paint, coatings and solvents, and which emit less than 1666 lb/mo of VOC
- graphic arts operations, including associated quality assurance laboratories and cleaning operations, which use less than 250 gal/mo of coatings, inks and solvents, or which emit not more than 1666 lb/mo of organic compounds
- batch cold cleaning equipment with a total air to solvent interface of 4.0 m² or less during operation
- batch open top vapor degreasing equipment with a total air to solvent interface of 2.0 m² or less during operation
- private alcohol fuel production systems
- water chlorination facilities
- gasoline dispensing facilities which dispense gasoline or other petroleum products
- a combination of emission units which consists of not more than one each of the following specific categories of sources and which meet the exemption conditions outlined above:
 - fuel burning equipment
 - equipment designed to incinerate solid wastes
 - storage tanks of organic compounds with a combined total tankage capacity of not more than 40,000 gal, if not more than 10,000 gal of that capacity is used for storage of VOC
 - only one of the other specific category exemptions listed, from painting or coating operations through gasoline dispensing facilities.

Appendix 1-2 (continued)

Part B - General Category of Exempt Sources (WAC Sections NR 407.03(2))

Any direct source that meets all of the following conditions is exempt:

- does not emit, without considering emission control devices, any of the following contaminants at rates in excess of the following:
 - SO₂, 9.0 lb/h
 - CO, 9.0 lb/h
 - NO_x, 9.0 lb/h
 - particulate matter, 5.7 lb/h
 - organic compounds, 5.7 lb/h
 - lead, 0.13 lb/h
- does not emit any of the following contaminants at rates in excess of the following:
 - fluorides, 3.0 tons/yr
 - hydrogen sulfide, 10 tons/yr
 - reduced sulfur compounds, 10 tons/yr
 - total reduced sulfur, 10 tons/yr
 - vinyl chloride, 1.0 ton/yr
- does not emit any hazardous air contaminants in excess of emission rates set by the Department
- does not emit any other air contaminant not mentioned above at a rate greater than 6.0 lb/h.

Appendix 1-3

Maximum Allowable Rates of Emission For Particulate Matter Based on Process Weight Rate For Sources on Which Construction or Modification Was Commenced After 1 April 1972

(Source: WAC Section NR 415.05(2))

| Process Weight Rate (P) (lb/h) | Maximum Emission Rate (E) (lb/h) |
|---|---|
| 50 | 0.36 |
| 100 | 0.56 |
| 500 | 1.52 |
| 1000 | 2.33 |
| 5000 | 6.33 |
| 10,000 | 9.74 |
| 20,000 | 14.96 |
| 60,000 | 29.57 |
| 80,000 | 31.23 |
| 120,000 | 33.33 |
| 160,000 | 34.90 |
| 200,000 | 36.16 |
| 400,000 | 40.41 |
| 1,000,000 | 46.79 |

To use this table, proceed as follows:

- calculate the process weight rate, i.e., the process weight per hour, in lb/h
- find this figure in the appropriate column of the table
- opposite this figure, in the maximum emission rate column, is the maximum number of lb/h of particulate matter which may be discharged into the atmosphere for the given process weight rate.

To calculate the maximum emission rate for a process weight rate not on this table, proceed as follows:

- when P is less than 60,000 lb/h: $E = 3.59 P^{0.62}$
- when P is 60,000 lb/h or greater: $E = 17.31 P^{0.16}$

Appendix 1-4

Particulate Matter Emission Limits For Fuel Burning Equipment

(Source: WAC Sections NR 404.03, and NR 415.06(1) and (2))

Part A. For all equipment on which construction was commenced on or before 1 April 1972, the emission limitation determined by use of Figure 2 of the ASME Standard Number APS-1, provided that the following stack emission limitations are not exceeded:

- for sources located in subregion 1 of the Lake Michigan Intrastate AQCR, 0.30 lb of particulate matter per MBtu heat input
- for sources located in the Southeastern Wisconsin Intrastate AQCR, one of the following:
 - for equipment whose heat input is more than 250 MBtu/h, 0.15 lb of particulate matter per MBtu heat input
 - for equipment whose heat input is 250 MBtu/h or less, the emission, E, calculated from the following equation:
 - where $E = \text{pounds of particulate matter per MBtu heat input}$
 - and $I = \text{heat input in MBtu/h}$
 - $$E = 0.3 - 0.0006(I)$$
- for all other sources, 0.60 lb of particulate matter per MBtu heat input.

Part B. For all equipment on which construction was commenced after 1 April 1972, one of the following:

- for equipment whose heat input is 100 MBtu/h or less, and which burns either wood only or wood simultaneously with liquid or gaseous fuel, and which is located in subregion 1 of the Lake Michigan Intrastate AQCR, the emission limitation determined by use of Figure 2 of the ASME Standard Number APS-1, provided that the stack emissions do not exceed 0.30 lb of particulate matter per MBtu heat input
- for all other equipment whose heat input is 100 MBtu/h or less, and which burns either wood only or wood simultaneously with liquid or gaseous fuel, and which is not located in the Southeastern Wisconsin Intrastate AQCR, 0.50 lb of particulate matter per MBtu heat input
- for all other equipment whose heat input is 250 MBtu/h or less, 0.15 lb of particulate matter per MBtu heat input
- for all equipment whose heat input is more than 250 MBtu/h, 0.10 lb of particulate matter per MBtu heat input.

Appendix 1-5

Sulfur Emission Control In Specific Geographic Areas

(Source: WAC Chapter NR 418)

Sources of sulfur compound emissions that operate in any of the following geographic areas and that satisfy the applicability conditions given, must meet the emissions limitations and other requirements listed below:

Village of Brokaw (Marathon County):

Applicability: for any liquid fossil fuel-fired steam generating boiler on which construction or modification was commenced prior to 1 January 1980

Emission Limitations:

- for emission points less than 160 ft aboveground level:
that amount of SO₂ that would occur from burning fuel oil with a sulfur content less than or equal to 0.22 percent by weight
- for emission points which are 160 ft or more aboveground level:
that amount of SO₂ that would occur from burning fuel oil with a sulfur content less than or equal to 1.0 percent by weight

Other Requirements:

- a Department-approved compliance plan

City of Madison (Dane County):

Applicability: for any fossil fuel-fired steam generating boiler on which construction or modification was commenced prior to 1 November 1979

Emission Limitations:

- for boilers which are fired by liquid fossil fuel (alone or in combination with other liquid or gaseous fuels), and whose rated heat input is more than 25 MBtu/h, SO₂ emissions which meet one of the following:
 - for boilers fueled with distillate fuel oil, that which would occur from burning a fuel oil with a sulfur content less than or equal to 0.50 percent by weight
 - for boilers fueled with residual fuel oil, that which would occur from burning a fuel oil with a sulfur content less than or equal to 1.1 percent by weight
- for boilers which are fired by solid fossil fuel (alone or in combination with other solid, liquid or gaseous fuels), and whose rated heat input is more than 25 MBtu/h but less than 100 MBtu/h: 7.0 lb of SO₂ per MBtu heat input
- for boilers which are fired by solid fossil fuel (alone or in combination with other solid, liquid or gaseous fuels), and whose rated heat input is more than 100 MBtu/h:
 - for any electrical utility boiler: 4.25 lb of SO₂ per MBtu heat input
 - for any other boiler, the following limitations based on the emission point height aboveground level:
 - less than 180 ft, 2.5 lb of SO₂ per MBtu heat input
 - between 180 and 220 ft, the limit calculated from the following equation:
$$X = 10^{[0.0089(H) - 1.18]}$$

where X = maximum allowable emission in pounds of SO₂ per MBtu heat input
and H = emission point height

- more than 220 ft, 5.8 lb of SO₂ per MBtu heat input

Other Requirements:

- a Department-approved compliance plan

Appendix 1-5 (continued)

Southeastern Wisconsin Intrastate AQCR:

Applicability: installations that burn coal and whose rated heat input is at 250 MBtu/h or less

Other Requirements: coal sulfur content must not exceed 1.11 lb per MBtu of coal

City of Milwaukee (Milwaukee County):

Applicability: for any electrical utility installation with a rated heat input of more than 250 MBtu/h on which construction or modification was commenced prior to 1 December 1983

Emission Limitations:

- for solid fossil fuel: 3.28 lb SO₂ per MBtu heat input
- for residual fuel oil: 1.60 lb SO₂ per MBtu heat input

- for all other fuels: 0.50 lb SO₂ per MBtu heat input

- for units that burn different fuels in combination, the limit calculated from the following equation:

$$Q = (X(3.28) + Y(1.60) + Z(0.5))/(X+Y+Z)$$

where Q = maximum allowable emission in pounds of SO₂ per MBtu heat input

$$Q = (X(3.28) + Y(1.60) + Z(0.5))/(X+Y+Z) \quad X = \% \text{ total heat input derived from solid fossil fuel}$$

$$Q = (X(3.28) + Y(1.60) + Z(0.5))/(X+Y+Z) \quad Y = \% \text{ total heat input derived from residual fuel oil}$$

$$Q = (X(3.28) + Y(1.60) + Z(0.5))/(X+Y+Z)$$

$$Z = \% \text{ total heat input derived from all other fuels}$$

Other Requirements:

- a Department-approved compliance plan

Cities of Green Bay and DePere (Brown County):

Applicability: for any electrical utility boiler on which construction or modification was commenced prior to 1 February 1984

Emission Limitations:

- where the emission point is 377 ft or more aboveground level:
5.58 lb SO₂ per MBtu heat input

- where the emission is less than 377 ft aboveground level:
0.50 lb SO₂ per MBtu heat input

Other Requirements:

- a Department-approved compliance plan

Appendix 1-6

Seal Gap Measurement Standards For External Floating Roof Tanks (WAC Section NR 440.28(3)(a)(1) And WAC Section NR 440.285(4)(b)(4))

Part I. For tanks subject to the requirements of the Petroleum Liquid Storage - New Stationary Source Performance Standards section of the manual: (Source: WAC Section NR 440.28(3)(a)(1))

A. For the primary seal:

- for metallic shoe seals and liquid-mounted seals:
 - accumulated gap area must not exceed 212 cm²/m of tank diameter (10.0 in.²/ft of tank diameter) - width of any portion of any gap must not exceed 3.81 cm (1.5 in.)
 - for vapor-mounted seals:
 - accumulated gap area must not exceed 21.1 cm²/m of tank diameter (1.0 in.²/ft of tank diameter) - width of any portion of any gap must not exceed 1.27 cm (0.5 in.).

B. For the secondary seal:

- for secondary seals used in combination with metallic shoe or liquid-mounted primary seals:
 - accumulated gap area must not exceed 21.1 cm²/m of tank diameter (1.0 in.²/ft of tank diameter)
 - width of any portion of any gap must not exceed 1.27 cm (0.5 in.)
- for secondary seals used in combination with vapor-mounted primary seals: no gaps allowed between tank wall and secondary seal.

Part II. For tanks subject to the requirements of the Volatile Organic Liquid Storage - Regulated Storage Vessels section of the manual: (Source: WAC Section NR 440.285(4)(b)(4))

A. For the primary seal:

- accumulated gap area must not exceed 212 cm²/m of tank diameter (10.0 in.²/ft of tank diameter) - width of any portion of any gap must not exceed 3.81 cm (1.5 in.)

B. For the secondary seal:

- accumulated gap area must not exceed 21.1 cm²/m of tank diameter (1.0 in.²/ft of tank diameter) - width of any portion of any gap must not exceed 1.27 cm (0.5 in.).

| | | | |
|---------------------------|--|--------------|---------------------|
| INSTALLATION: | COMPLIANCE CATEGORY: CLEAN AIR ACT (CAA) Wisconsin Supplement | DATE: | REVIEWER(S): |
| STATUS NA C RMA | REVIEWER COMMENTS: | | |
| | | | |

SECTION 2

CLEAN WATER ACT (CWA)

Wisconsin Supplement

SECTION 2

CLEAN WATER ACT (CWA)

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Definitions

These definitions were taken from the following regulations:

WAC NR 102, Water Quality Standards.

WAC NR 115, Shoreline Management Program.

WAC NR 104, Use and Designated Standards.

WAC NR 103, Water Quality Standards for Wetlands.

WAC NR 141, Groundwater Monitoring Well Program.

WAC NR 183, Engine Waste Oil, Collection, Storage, and Transportation.

WAC NR 101, Reports and Fees for Discharges of Industrial Waste.

WAC NR 205, General Provisions, Wisconsin Pollutant Discharge Elimination System.

WAC NR 210, Sewage Treatment Works.

WAC NR 140, Groundwater Quality.

WAC NR 101, Reports for Discharges of Industrial Wastes.

WAC NR 600, General.

WAC NR 103, Water Quality Standards for Wetlands.

WAC NR 214, Land Application and Disposal of Wastes.

WAC NR 200, Discharge Permits.

WAC NR 211, General Pretreatment Standards.

- **Aquifer** - a geological formation, group of formations, or part of a formation that is capable of yielding a significant amount of water to a well or spring.
- **Best Available Technology or BAT** - the best technology, treatment techniques, or other means which the U.S. Environmental Protection Agency (USEPA) finds, after examination for efficiency under field conditions and not solely under laboratory conditions, are available.
- **Biochemical Oxygen Demand (BOD)** - the quantity of dissolved oxygen (mg/L) required during stabilization of decomposable organic matter by aerobic biochemical action.
- **Bypass** - a physical arrangement whereby water may be diverted around any feature of a purification process at a water treatment plant.
- **CBOD₅** - the 5 day carbonaceous biochemical oxygen demand.
- **Certified Operator** - an individual who has met the requirements of the state of Wisconsin and has been issued a certificate by the Department to operate one or more of the classifications of waterworks or wastewater treatment plants.
- **Classification** - or class means a number assigned to the plant based on a rating system.
- **CMAR** - the compliance maintenance annual report.

- ***Code of Federal Regulations (CFR)*** - Specifically, it refers to those sections of the code which deal with the National Primary and Secondary Drinking Water Standards.
- ***Complete treatment system*** - a treatment system that employs disinfection , coagulation, sedimentation, and filtration units which function collectively to effect control over water quality characteristics to produce a finished water that meets the requirements of the state drinking water standards.
- ***Dam*** - any artificial barrier, together with appurtenant works, which does or may impound water.
- ***7-Day Average*** - the arithmetic mean of pollutant parameters for samples collected in a 7 day consecutive period.
- ***30-Day Average*** - the arithmetic mean of pollutant parameters for samples collected in a 30 day consecutive period.
- ***Department*** - the Department of Natural Resources.
- ***Direct Responsible Charge*** - to provide detailed onsite technical direction of the operation of a waterworks or wastewater treatment plant. Not included in this definition are shift operators or shift supervisors. Also not included are utility managers, city engineers, directors of public works or their equivalent, who are not involved in the day to day operation of the plant.
- ***Disinfection*** - the operation of an ultraviolet lamp unit, or the addition of chemical disinfectants with adequate mixing and detention times, to provide pathogen reductions.
- ***Gated Spillway*** - a variably regulated opening in a dam through or over which water is conveyed past a dam.
- ***Grade*** - a number assigned to an operator based on an examination system, except that the operator in training is designated with a letter *T*.
- ***Industrial Wastewater Facility*** - a facility which reduces or removes pollutants from an industrial waste prior to discharge to waters of the state, other than through publicly owned treatment works (POTWs).
- ***Line of Navigation*** - the 3 ft depth contour or a greater depth contour if required for boats in use or appropriate for use on the waterway, based in the normal summertime lows levels on the waterway or summer minimum levels where established by the Department.
- ***Littoral Drift*** - the sedimentary material which moves in the zone of waves breaking on the shore because of wave and current.
- ***Living Unit*** - a domicile.
- ***New Source*** - includes any building, structure, facility, or installation that:
 - discharges or may discharge a pollutant
 - prior which the commencement of construction occurred after the publication in the Federal register of proposed pretreatment standards that will be applicable if promulgated
 - that is one of the following:
 - constructed at a site where no other source is located
 - a total replacement of the process or production equipment that causes the discharge of pollutants
 - substantially independent from an existing source at the site.

- $NH_3 - N$ - ammonia nitrogen measured as nitrogen.
- *Nonpoint Source* - pollution that enters any waters of the state from any dispersed land based or water based activities, including but not limited to atmospheric deposition, surface water runoff from agricultural lands, urban areas, or forest lands, subsurface or underground sources, or discharges from boats or marine vessels not otherwise regulated under the NPDES program.
- *NPDES* - National Pollutant Discharge Elimination System.
- *NPDES Permit* - a permit authorizing a discharge to the surface waters of the state directly, or indirectly by means other than through a POTW or the groundwaters.
- *Open Spillway* - the overflow section of a dam conveying water past the dam.
- *Other Aquatic Life Uses* - the following are water classifications that apply to all surface water bodies in the state of Wisconsin:
 - Great Lakes Communities: this includes Lake Superior, Lake Michigan, and Green Bay.
 - Cold Water Communities: this includes surface waters except those in Great lakes communities classification capable of supporting a community of cold water fish species. This includes, but is not restricted to surface waters identified as trout water by the Department of Natural Resources.
 - Warm Water Sport Fish Communities: this includes surface waters as capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish.
 - Limited Forage Fish Communities (Intermediate surface waters): this includes surface waters of limited capacity and naturally poor water quality or habitat. These surface waters are capable of supporting only a limited community of forage fish and other aquatic life.
 - Limited Aquatic Life (Marginal surfaced waters): this includes surface waters of severely limited capacity and naturally poor water quality or habitat. These surface waters are capable of supporting only a limited community of aquatic life.

(NOTE: The limited aquatic life classification is not considered suitable for the protection of a balanced fish and other aquatic life community.)

- *Outlying Waters* - Lakes Superior and Michigan, Sturgeon Bay, Sawyers Harbor, and the Fox River from its mouth to the dam at DePere.
- *Overflow* - the diversion of flow from a POTW before the POTW treatment plant.
- *Pass Trough* - the discharge of pollutants through the POTW to waters of the state in quantities or concentrations which alone, or in conjunction with the discharge or discharges from other sources, causes a violation or increases the magnitude or duration of a violation of any requirements of the POTW's Wisconsin Pollutant Discharge Elimination System (WPDES) permit.
- *Person* - includes any individual, corporation, association, firm or partnership, municipal, state, or Federal agency, or joint stock company and includes any receiver, special master, trustee assignee, or other similar representative thereof.

- **Pier** - any structure extending channelward from the shore with water on both sides, built and maintained for the purpose of providing berthing or mooring place for watercraft or for loading or unloading cargo or passengers onto or from a watercraft and may include a temporary boat hoist without roof or walls.
- **Pierhead Line** - a line established in the water adjacent to and roughly parallel to the shoreline established by the municipalities and approved by the Department for the purpose of regulating pier length.
- **Portage** - an overland route for manually carrying boats and supplies around a dam.
- **POTW Treatment Plant** - that portion of a POTW designed to provide treatment, including recycling and reclamation, of municipal sewage and industrial waste.
- **Pretreatment** - the reduction of the amount of pollutants, the elimination of pollutants, or the alteration of the nature of a pollutant property in wastewater to a less harmful state prior to, or in lieu of, discharging the pollutants to a POTW.
- **Pretreatment Requirement** - any substantive or procedural requirement related to pretreatment, other than a pretreatment standard, imposed on an industrial user.
- **Pretreatment Standard** - any regulation which applies to industrial users which applies to industrial users and which contains pollutant discharge limits promulgated by the Department.
- **Prohibited Discharge Standard** - any standard specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a PCTW by industrial users regardless of industrial category.
- **Publicly Owned Treatment Works (POTW)** - any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature that is owned by a state or municipality.
- **Regulated Stream** - a stream regulated by categorical pretreatment standards.
- **Riparian** - an owner or lessee of the land adjacent to a stream or lake.
- **Sewer** - any pipe or conduit used to convey sewage or industrial waste streams.
- **Sewerage System** - all structures, including sewage treatment facilities, conduits and pipelines, by which sewage is collected and disposed of.
- **Significant Industrial User** -
 - any industrial user subject to the categorical pretreatment standards in Chapters NR 221 to 297
 - any industrial user which discharges an average of 25,000 gal/day or more of waste to a POTW, excluding sanitary noncontact cooling water and boiler blowdown wastewater
 - any industrial user which discharges to a POTW a process waste stream which makes up 5 percent or more of the average dry weather capacity of the POTW
 - any centralized waste treater
 - any industrial user designated as a significant industrial user.
- **Slug** - any nonroutine, episodic discharge, such as a discharge resulting from a spill or noncustomary batch discharge.

- *Solid Pier* - a structure, not allowing for the free flowing of water beneath, extending into the water from a shoreline to serve as a navigation aid. This does not include piers that use rock filled cribs as foundations.
- *Subclass* - a letter assigned to the plant based on the particular type of processes at the facility.
- *Subgrade* - a letter assigned to an operator based on the passing of an examination for a specific operation process.
- *Surface Water* - all water which is open to the atmosphere and subject to surface water runoff.
- *Surface Water Classifications* - are as follows:
 - Lakes or Flowages: bodies of waters whose current is more or less stagnant or which lacks a unidirectional current.
 - Diffused Surface Waters: this classification includes any water from rains, intermittent springs or melting snow which flows on the land surface, through ravines which are usually dry except in times of run-off. This category does not include waters at the land surface in the vicinity of agricultural or wastewater irrigation disposal systems.
 - Wetlands: areas where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which have soils indicative of wet conditions.
 - Wastewater Effluent Channels: discharge conveyances constructed primarily for the purpose of transporting wastes from a facility to a point of discharge. Drainage ditches constructed primarily for the purposes of relieving excess waters on agricultural lands shall not be construed as effluent channels. Modifications made to natural watercourses receiving wastewater effluents for the purpose of increasing or enhancing the natural flow characteristics of the stream shall not be classified as effluent channels.
 - Noncontinuous Streams: this classification includes watercourses which have a defined stream channel, but have a natural 7-day Q flow of less than 0.1 ft³/s and do not exhibit characteristics of being perpetually wet without wastewater discharges.
 - Continuous Streams: watercourses which have a natural 7-day Q flow of greater than 0.1 ft³/s or which exhibit characteristics of a perpetually wet environment, are generally capable of supporting a diverse aquatic biota and flow in a defined stream channel.
- *Unregulated Stream* - a stream not regulated by categorical pretreatment standards.
- *USEPA* - the U.S. Environmental Protection Agency.
- *Volatile Organic Chemical (VOC)* - a manufactured carbon based chemical that vaporizes quickly at standard pressure and temperature.
- *Wastewater Treatment Plant* - any facility provided for the treatment of sanitary or industrial wastewater or both. The following systems are excluded:
 - facilities defined as private sewage systems
 - pretreatment facilities from which effluent is directed to a POTW
 - industrial wastewater treatment facilities which consist solely of a land disposal system.
- *Waterworks* - a system that serves piped water for drinking or domestic use to:
 - serve the public
 - at least 15 service connections
 - an average of 25 individuals for at least 60 days out of the year.
- *Wisconsin Pollutant Discharge Elimination System (WPDES) Permit* - a permit issued to a POTW for the purpose of controlling a pollutant discharge.

CLEAN WATER ACT (CWA)
GUIDANCE FOR WISCONSIN CHECKLIST USERS

| Applicability: | Refer to Checklist Items: |
|---|--------------------------------------|
| Water Quality Standards for Wetlands | 2-1 |
| Surface Water Quality Standards | 2-2 through 2-6 |
| Surface Waters - Wild Rivers | 2-7 |
| Surface Waters - Piers | 2-8 |
| Surface Water - Warning Signs | 2-9 |
| Surface Water - Dredging and Material Removal | 2-10 |
| Surface Water - Thermal Discharges | 2-11 and 2-12 |
| WPDES Permits | 2-13 through 2-17 |
| Underground Injection | 2-18 |
| Land Disposal of Wastes | 2-19 through 2-21 |
| Publicly Owned Treatment Works (POTWs) | 2-22 through 2-29 |
| Pretreatment Standards | 2-30 through 2-37 |

| COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Wisconsin Supplement | |
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>WATER QUALITY STANDARDS FOR WETLANDS</p> <p>2-1. Installations must protect and preserve the quality of water in wetlands (Department of Natural Resources (NR) 103.03(2)(a) through (e)).</p> | <p>Determine if the installation has surface waters that are classified by the state as wetlands.</p> <p>Verify that the installation does not cause any of the following conditions to occur in wetlands:</p> <ul style="list-style-type: none"> - liquids, fill or other solids or gas are not present in amounts that cause adverse impacts - floating or submerged debris, oil or other material are not present in amounts that interfere with public interest or cause adverse impacts - materials producing color, odor, taste or unsightliness are not present in amounts that cause adverse impacts - concentrations or combinations of substances that are toxic or harmful to human, animal or plant life are not present in amounts that cause adverse impacts. <p>Verify that the installation does not have an adverse impact on the following physical characteristics:</p> <ul style="list-style-type: none"> - water currents, erosion or sedimentation patterns - water temperature variations - the chemical, nutrient and dissolved oxygen regime of the wetland - the movement of aquatic fauna - the pH or the wetland - water levels or elevations. |
| <p>SURFACE WATER QUALITY STANDARDS</p> <p>2-2. Installations with surface waters must meet general surface water quality standards (NR 102.04(1),(2), and (3)).</p> | <p>Verify that the following conditions are met at all times and in all flow conditions in waters of the state:</p> <ul style="list-style-type: none"> - substances that will cause objectionable deposits on the shore or on the bed of a body of water are not present in amounts that would interfere with public rights in - floating or submerged debris, oil, scum or other material are not present in amounts that would interfere with public rights - materials producing color, odor, taste or unsightliness are not present in amounts that would interfere with public rights - substances in concentrations or combinations that are toxic or harmful to humans are not present in amounts that cause a significant public health risk - substances in concentrations or combinations that are toxic or acutely harmful to animal, plant, or aquatic life are not present. |

| COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Wisconsin Supplement | |
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| 2-2. (continued) | <p>(NOTE: The following are water classifications that apply to all surface water bodies in the state of Wisconsin:</p> <ul style="list-style-type: none"> - Great Lakes Communities: this includes Lake Superior, Lake Michigan and Green Bay. - Cold Water Communities: this includes surface waters except those in Great lakes communities classification capable of supporting a community of cold water fish species. This includes, but is not restricted to surface waters identified as trout water by the Department of Natural Resources. - Warm Water Sport Fish Communities: this includes surface waters as capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish. - Limited Forage Fish Communities (Intermediate surface waters): this includes surface waters of limited capacity and naturally poor water quality or habitat. These surface waters are capable of supporting only a limited community of forage fish and other aquatic life. - Limited Aquatic Life (Marginal surfaced waters): this includes surface waters of severely limited capacity and naturally poor water quality or habitat. These surface waters are capable of supporting only a limited community of aquatic life.) |
| 2-3. Installations with waters classified for Fish and Aquatic Life must meet specific water quality standards (NR 104.04(4)(a) through (d)). | <p>Verify that the following conditions are met in waters classified for Fish and Aquatic Life:</p> <ul style="list-style-type: none"> - the dissolved oxygen level is in excess of 5 mg/L at any given time - the temperature change does not adversely effect aquatic life - the temperature change does not exceed 5 °F for streams and 3 °F for lakes above natural temperatures - the pH is between 6.0 and 9.0 - no discharge or activity is allowed that will increase the pH more than 0.5 pH units - unauthorized concentrations of substances are not permitted alone or in combination with other materials present that are toxic to fish or other aquatic life. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>2-4. Installations with waters classified as Trout Waters by the Department of Natural Resources must meet specific water quality standards (NR 104.04(4e)).</p> | <p>Verify that the following conditions are met in waters classified as trout waters:</p> <ul style="list-style-type: none"> - no significant artificial change in temperature where natural trout reproduction is to be protected - the dissolved oxygen level does not artificially lowered below 6.0 mg/L at any time - the dissolved oxygen level does not artificially lowered below 6.0 mg/L during spawning season. <p>(NOTE: There must be no significant artificial increases in temperature where natural trout reproduction is to be protected. Dissolved oxygen in classified trout streams must not be artificially lowered to less than 6.0 mg/L at any time, nor may the dissolved oxygen be lowered to less than 7.0 mg/L during the spawning season. The dissolved oxygen in great lakes tributaries used by stocked salmonids for spawning runs must not be lowered below natural background during the period of habitation.)</p> |
| <p>2-5. Installations with waters classified as fit for recreational use must meet specific water quality standards (NR 104.04(5)).</p> | <p>Verify that installations with waters classified as fit for recreational meet the following water quality standards:</p> <ul style="list-style-type: none"> - fecal coliform levels does not exceed a geometric mean value of 200 colonies per 100 mL, based on not less than 5 percent of the total samples taken for the month - no more 10 percent of all samples obtained for calculating the geometric mean value exceed the value of 400 colonies per 100 mL. |
| <p>2-6. Installations with streams and river must meet specific requirements for water flow (NR 104.05(2)).</p> | <p>Verify that installations with streams and river do not cause the flow to drop below the average 7-day low streamflow which occurs once every 10 yr.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>SURFACE WATERS - Wild Rivers</p> <p>2-7. Installations with wild rivers must meet specific management requirements (NR 302.03 and NR 302.04).</p> | <p>Determine if there is a river on the installation designated as a wild river.</p> <p>Verify that the installation has no manmade dams or other manmade structures on the wild river which impound water.</p> <p>(NOTE: The exception to the impoundment requirement are projects licensed by the Federal Energy Regulatory Commission, in existence prior to 18 November 1965.)</p> <p>Verify that the installation dredge material from the bed of a wild river.</p> <p>Verify that the installation does not grade the top soil on the banks of a wild river.</p> <p>Verify that the installation does not maintain a pond within 400 ft of the high water mark of a wild river.</p> <p>Verify that the installation does not maintain a channel connected to a wild river.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>SURFACE WATERS - Piers</p> <p>2-8. Installations with piers must meet specific requirements (NR 326).</p> | <p>Verify that the installation does not have a pier extending into the water from the shoreline beyond the line of navigation or the length of the boat using the pier.</p> <p>(NOTE: An exception may be granted if the riparian can demonstrate that boats using the pier require a greater depth of water.)</p> <p>Verify that the pier does not totally enclose any portion of a navigable waterway.</p> <p>Verify that the pier does not unreasonably obstruct navigation or otherwise interfere with public rights in navigable waters.</p> <p>Verify that the pier does not interfere with the rights of other riparians.</p> <p>Verify that the pier does not interrupt the free movement of water or cause the formation of land by deposition of littoral drift upon the bed of the water.</p> <p>Verify that piers associated with marinas and other similar mooring facilities do not extend into the water from the shoreline beyond the line of navigation unless a permit is obtained.</p> <p>Verify that the pier does not screen or in any other manner trap or accumulate aquatic plants.</p> <p>Installations that construct solid piers, rock-filled cribs or other similar size and type devices used as foundations and piers extending beyond pierhead lines are required to have a permit.</p> <p>Verify that the installation does not have a solid pier unless the pier is in one of the following bodies of water:</p> <ul style="list-style-type: none"> - outlying waters - harbors connected to outlying waters - Fox River from DePere dam to Lake Winnebago - Lake Winnebago - Mississippi River. <p>Verify that the solid pier has an opening sufficient in size to provide for the passage of littoral drift.</p> <p>(NOTE: The opening size must be adequate to prevent the deposition of littoral drift considering wave energy, littoral drift supply, and near-shore water depths.)</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>SURFACE WATER - Warning Signs</p> <p>2-9. Installations must meet specific requirements for warning signs on dams (NR 330.04 and NR 330.05).</p> | <p>Determine if the installation has a dam.</p> <p>Verify that the installation has signs warning boaters of a dam that are legible at least 300 ft upstream of the dam.</p> <p>Verify that the installation has signs or devices placed downstream of gated spillways and/or powerhouses to advise boaters of potentially dangerous and rapidly changing currents.</p> <p>Verify that the installation has portage information signs placed at portage takeout points and at such intervals as are necessary to provide adequate information to anyone portaging the dam.</p> <p>Verify that the installation has a portage with a clear access route around the dam and its appurtenances, on which a boat and supplies can be carried without unreasonable obstruction, danger or difficulty.</p> <p>Verify that the signs, devices and markers used to warn boater meet the following requirements:</p> <ul style="list-style-type: none"> - the minimum size of the sign is 2 ft by 2 ft - the border is one-half the length of the sign - the letters and numerals are three-tenths of the length of the side of the sign. |
| <p>SURFACE WATER - Dredging and Material Removal</p> <p>2-10. Installations must have a permit to remove material from the bed of a natural waterway or a public artificial waterway. (NR 340.03, NR 340.06, NR 345.02 and NR 345.07).</p> | <p>Verify that the installation has a permit for the removal of material from the bed of a natural waterway or a public artificial waterway.</p> <p>Verify that the installation notifies the Department in writing 15 days prior to initial commencement of project and 15 days after final completion of project.</p> <p>Verify that the installation has a permit for the removal of material from the bed of any nonnavigable waterway.</p> |

| COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Wisconsin Supplement | |
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>SURFACE WATER - Thermal Discharges</p> <p>2-11. Installations that discharge into Lake Michigan and Lake Superior must meet thermal discharge standards (NR 102.07).</p> <p>2-12. Installations that discharge into the Mississippi River must meet thermal discharge standards (NR 102.08).</p> <p>WPDES PERMITS</p> <p>2-13. Installation that discharge under a WPDES permit must meet reporting requirements (NR 101.11).</p> | <p>Verify that the discharges do not raise the receiving water temperature more than 3 °F above the existing natural temperature at the boundary of the mixing zone.</p> <p>(NOTE: The mixing zone of a shoreline thermal discharge is the area included within the perimeter of a rectangular figure extending 1250 ft in both directions along the shoreline from the outfall and 1250 ft into the lake. The mixing zone of an offshore discharge is a circle with a radius of 1000 ft radius.)</p> <p>Verify that thermal discharges into Lake Michigan do not raise the receiving water temperature at the boundary of the mixing zone above the limits set in Appendix 2-1.</p> <p>(NOTE: The thermal discharge standards listed in Appendix 2-1 do not apply to the Milwaukee Port, Port Washington Harbor, and the mouth of the Fox River.)</p> <p>Verify that thermal discharges into the Mississippi River do not raise the receiving water temperature at the boundary of the mixing zone above the limits set in Appendix 2-2.</p> <p>(NOTE: In addition to the standards for fish and aquatic life, the Monthly average of the maximum daily average should not exceed the limits set in Appendix 2-2.)</p> <p>Verify that any installation, except one owned by a municipality, discharging any of the industrial wastes or toxic and hazardous substances to surface waters, land disposal systems, or POTWs, files an annual effluent report if the effluent exceeds the concentration or quantity levels in Appendix 2-3 or the following criteria:</p> <ul style="list-style-type: none"> - is more than 10,000 gal/day - if less than 10,000 gal/day but is to: <ul style="list-style-type: none"> - surface water from a facility required by a WPDES permit to monitor for other than volume and temperature, a land disposal system from a facility required to monitor for other than volume, a POTW from a facility subject to pretreatment standards. <p>Verify that the annual effluent report is submitted by 1 February of each year for effluents during the preceding calendar year.</p> <p>(NOTE: Extensions may be granted by the Department.)</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>2-14. Installations that discharge under the conditions of a WPDES permit must meet specific standards (NR 205.11 and NR 205.12).</p> | <p>Verify that for each effluent measurement or sample taken the following records the following information are kept:</p> <ul style="list-style-type: none"> - the date, place, time and name of the person doing the sampling - the date of analysis, the person doing the analysis, and the methods and results. <p>Verify that the records of monitoring information and reports are kept for 3 yr.</p> <p>Verify that the wastewater treatment facility is under the direct supervision of a state certified operator.</p> <p>Verify that the installation takes all reasonable steps to minimize any adverse impact resulting from noncompliance.</p> <p>Verify that any noncompliance which may endanger health or the environment, any violation of an effluent limitation resulting from an unanticipated bypass, any violation of an effluent limitation resulting from an upset, or any violation of a maximum daily discharge limitation for pollutants specifically designated in the permit be reported to the Department within 24 h by telephone.</p> <p>Verify that substances removed or resulting from treatment are stored and disposed of to prevent pollution of state waters.</p> <p>Verify that any facility change that will result in changes in the discharges of pollutants be reported to the Department.</p> <p>Verify that the routine discharge of any toxic pollutant which is not limited in the permit is reported to the Department if it exceeds the following levels:</p> <ul style="list-style-type: none"> - 100 µg/L - 200 µg/L for acrolein and acrylonitrile - 500 µg/L for 2,4-dinitrophenol and for 2-methyl-4 and 6-dinitrophenol - 1 mg/L for antimony - five times the maximum concentration value reported for that pollutant in the permit application. <p>Verify that the installation reports to the Department any nonroutine discharge of a toxic pollutant which is not limited in the permit but exceeds the following levels:</p> <ul style="list-style-type: none"> - 500 µg/L - 1 mg/L for antimony - 10 times the maximum concentration value reported for that pollutant in the permit application - a notification level greater than the level shown above which the Department has included as a special condition to the permit. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>2-15. Installations that discharge a pollutant into waters of the state must have a permit (NR 200.03).</p> | <p>Verify that the installation has a permit for any of the following:</p> <ul style="list-style-type: none"> - the direct discharges of any pollutant to any surface water - the discharge of any pollutant including cooling waters to any surface water through a storm sewer system not emptying into a POTW - the discharge of pollutants for the purpose of disposal, treatment, or containment on land areas including land disposal systems such as ridge and furrow, land spreading, spray irrigation, and absorption pond systems - the discharge of pollutants to waters of the state from agriculture. <p>(NOTE: The following discharges are exempt from the permit requirements under WPDES:</p> <ul style="list-style-type: none"> - discharges to POTWs - sewage discharged from a vessel - discharge domestic sewage to disposal systems, such as septic tanks - discharges from properly operating marine engines - the disposal of solid waste at a site licensed by the state - discharges from private alcohol fuel production systems - discharges which have been included under the provisions of a general permit.) |
| <p>2-16. Installation must notify the Department of any changes in pollution discharges (NR 200.05).</p> | <p>Verify that the installation notifies the Department by letter 180 days in advance of any facility expansion, production increase, or process modification which result in a new or increased discharge of pollutants.</p> <p>Verify that if the altered discharge will violate any permit conditions, a new application is filed to obtain either a modification of an existing permit or a new permit.</p> <p>Verify that any installation discharging industrial wastes or toxic or hazardous substances, except sewer districts or municipalities, into a POTW, notifies the Department and the owner or operator of the POTW 180 days prior to:</p> <ul style="list-style-type: none"> - the introduction of pollutants to the treatment plant from any new source - the introduction of types or volumes of pollutants not described in any report to the Department. |
| <p>2-17. Installations that discharge phosphorus must meet specific requirements (NR 102.06).</p> | <p>Determine if the installation is required to remove phosphorus from the wastewater stream.</p> <p>Verify that the installation meets the effluent limitation for total phosphorus as determined by the Department.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| UNDERGROUND INJECTION 2-18. Installations must comply with standards for underground injection of hazardous waste (NR 600.04(1) and NR 112.05). | <p>Verify that the installation does not treat, store or dispose of hazardous waste by means of underground injection.</p> <p>Verify that the installation does not inject any substance into a well or drillhole.</p> <p>(NOTE: The circulation of water through a closed-loop heat pump system is allowed.)</p> |
| LAND DISPOSAL OF WASTES 2-19. Installations must meet restrictions on materials used for dust suppression or road treatment (NR 600.04(2)). | <p>Verify that solid waste, used oil or other material which is contaminated or mixed with hazardous waste is not applied for dust suppression to roads.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>2-20. Installations must meet certain requirements for the land application or disposal of liquid wastes (NR 214.08).</p> | <p>Verify that the installation has a permit for the land application or disposal of liquid wastes.</p> <p>(NOTE: These regulations do not apply to:</p> <ul style="list-style-type: none"> - private alcohol fuel production system wastes - animal waste, liquid manure, domestic waste, or domestic sewage - effluent from POTWs - mining wastes - noncontact cooling water - liquid wastes from corn silage stacks - sludge from wastewater treatment works, or disposed of in a landfill - uncontaminated lime sludges from paper mills or water supply treatment facilities - wet and semi-liquid wastes disposed of in a regulated site, except runoff, leachate, or other wastewaters collected for land disposal outside the regulated site. - wastes from facilities used solely for research.) <p>Verify that the the following conditions are met at the land disposal site:</p> <ul style="list-style-type: none"> - the land disposal system is not located closer than 500 ft from the closest inhabited dwelling - the land disposal system is not located closer than 1000 ft from the closest public water supply or 250 ft from the closest private water supply - no land disposal system is located in the flood plain. <p>Verify that the no discharge exceeds the following:</p> <ul style="list-style-type: none"> - hydraulic loading rate - the organic loading rate - the nitrogen loading rate - or any other rate specified in the WPDES permit. <p>Verify that no disposal to the system has physical or chemical characteristics that prevent the proper operation of the land disposal system.</p> <p>Verify that the installation uses a method approved by the Department for measuring the volume of the discharge to the land disposal system.</p> <p>Verify that the discharge to the land disposal system is monitored for total daily flow as specified in the WPDES permit.</p> <p>Verify that the installation monitors for the pollutants required by the Department.</p> |

| COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Wisconsin Supplement | |
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| 2-20. (continued) | <p>Verify that the installation does not discharge the following to the land disposal system:</p> <ul style="list-style-type: none"> - toxic pollutants or hazardous wastes unless allowed by the Department - underground discharges of pollutants, surface drainage or clearwater waste. <p>(NOTE: The following activities may dispose of liquid wastes by land application: commercial laundry or laundromats and motor vehicle cleaning wastewaters.)</p> |
| 2-21. Installations must meet certain requirements for the land application or disposal of industrial sludges (NR 214.11 and NR 214.12). | <p>Verify that the installation has a permit for the land application or disposal of industrial sludges.</p> <p>(NOTE: These regulations do not apply to sludges which are from POTW, are classified as toxic or hazardous, are generated in air pollution control facilities, are generated in metal finishing operations, or have been determined by the Department to have no value as a soil conditioner or fertilizer.)</p> <p>Verify that the installation has a sludge management plan approved by the Department 180 days before the commencement of land application of sludge.</p> <p>Verify that the sludge management plan includes the following:</p> <ul style="list-style-type: none"> - a description of the waterworks or the waste treatment plant - a description of the storage facilities for each type of sludge including: <ul style="list-style-type: none"> - the source, process and treatment systems from which the sludge originate - sludge treatment or processing techniques prior to land application - the volume of sludge generated on a daily maximum, monthly average end annual average basis - the proposed mode of sludge transportation including the transporter of sludge, the type of vehicle, and the method used to incorporate the sludge into the soil - provisions for storing the sludge when land application sites are unavailable or inaccessible including: <ul style="list-style-type: none"> - description of the storage facility - location of the storage facility - capacity of the storage facility - a description of the property interest or contractual agreement allowing the facility to use the land - any anticipated change in the use of the facility - evaluation of the environmental effects of the facility including the effect of spills, odors and public health impacts. |

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|---|---|
| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>2-21. (continued)</p> <p>PUBLICLY OWNED TREATMENT WORKS (POTWs)</p> <p>2-22. Installations with POTWs must meet minimum effluent limits for discharges (NR 210.05).</p> | <p>(NOTE: The Department may require the generator of a liquid waste, the operator of a liquid waste land treatment system or an independent liquid waste-handling contractor to design and install a groundwater monitoring well system. The Department may require groundwater monitoring for the following parameters: elevation, depth to groundwater, organic nitrogen, ammonia nitrogen, nitrate and nitrite nitrogen, chlorides, sulfates, dissolved solids, alkalinity, hardness, field pH, field specific conductance, BOD₅, COD, sodium, calcium, magnesium, iron and manganese, and any other pollutant that may be required on a case-by-case basis.)</p> <p>Verify that installations with POTWs discharging into waters classified as suitable for fish and aquatic life meet the following effluent limitations:</p> <ul style="list-style-type: none"> - effluent limits for BOD₅: <ul style="list-style-type: none"> - the 30-day average does not exceed 30 mg/L - the 7-day average does not exceed 45 mg/L - the 30-day average removal is not less than 85 percent - effluent limits for total suspended solids (TSS): <ul style="list-style-type: none"> - the 30-day average does not exceed 30 mg/L - the 7-day average does not exceed 45 mg/L - the 30-day average removal is not less than 85 percent - the effluent pH is in the range of 6.0 to 9.0. <p>Verify that installations with POTWs discharging into waters classified as intermediate aquatic life meet the following effluent limitations:</p> <ul style="list-style-type: none"> - effluent limits for BOD₅: <ul style="list-style-type: none"> - the 30-day average does not exceed 15 mg/L - the 7-day average does not exceed 30 mg/L - the 30-day average removal may not be less than 85 percent - effluent limits for TSS: <ul style="list-style-type: none"> - the 30-day average does not exceed 20 mg/L - the 7-day average does not exceed 30 mg/L - the 30-day average removal is less than 85 percent - effluent limits for NH₃ - N: <ul style="list-style-type: none"> - the 7-day average does not exceed 3.0 mg/L from 1 May through 31 October - the 7-day average does not exceed 6.0 mg/L from 1 November through 30 April - the effluent pH is in the range of 6.0 to 9.0 - the daily minimum effluent dissolved oxygen level is 4.0 mg/L. |

COMPLIANCE CATEGORY:
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>2-22. (continued)</p> <p>2-23. Installations with POTWs must disinfect the effluent from the facility (NR 210.06).</p> | <p>Verify that installations with POTWs discharging into waters classified as intermediate aquatic life meet the following effluent limitations:</p> <ul style="list-style-type: none"> - effluent limits for BOD_5: <ul style="list-style-type: none"> - the 30-day average does not exceed 20 mg/L - the 7-day average does not exceed 30 mg/L - the 30-day average removal may not be less than 85 percent - effluent limits for TSS: <ul style="list-style-type: none"> - the 30-day average does not exceed 20 mg/L - the 7-day average does not exceed 30 mg/L - the 30-day average removal does not be less than 85 percent - the effluent pH is in the range of 6.0 to 9.0. - the daily minimum effluent dissolved oxygen level is 4.0 mg/L. <p>(NOTE: Effluent limitations may be imposed for pollutants other than those specified above where necessary to meet water quality standards for waters receiving the treated discharge. More stringent effluent limitations than those specified above may be imposed for any pollutant where necessary to meet water quality standards for water receiving the treated discharge. Upon request by the permittee, the Department may substitute the parameter $CBOD_5$ for the parameter BOD_5 and the levels of effluent quality specified above.)</p> <p>Determine the disinfection requirements at the POTW.</p> <p>Verify that the POTW meet the following minimum disinfection requirements:</p> <ul style="list-style-type: none"> - the geometric mean of the fecal coliform bacteria for samples collected in a period of 30 consecutive days does not exceed 400/100 mL - when chlorine is used for disinfection, the daily maximum total residual chlorine concentration of the discharge does not exceed 0.1 mg/L. In addition, a dechlorination process is in operation. <p>(NOTE: Disinfection will be required when it is determined that the discharge of wastewater poses a risk to human and animal health. Disinfection will be required from 1 May through 30 September to protect recreational uses, or year round to protect public drinking water supplies. The period for disinfection may be adjusted in a WPDES permit where necessary. Variances are granted by the Department for the following conditions and circumstances:</p> <ul style="list-style-type: none"> - for publicly owned treatment facilities receiving effluent from certain categories of industries - where aerated lagoons or waste stabilization ponds are the principal treatment processes - for effluent pH limitations - to substitute the parameter $CBOD_5$ for the parameter BOD_5 - for facilities eligible for treatment equivalent to secondary treatment - for treatment works which have a combined sewer system.) |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| 2-24. Installations with POTWs must maintain emergency operation equipment (NR 210.08). | <p>Verify that all POTWs have emergency powers that at a minimum will enable the facility to maintain primary settling and effluent disinfection under all conditions.</p> <p>Verify that installations discharging into Class I, II or III trout streams or other critical stream segments as determined by the Department, are able to operate all units needed to meet the effluent limits of the WPDES permit for a period of 24 h under all design flow conditions.</p> |
| 2-25. Installations with POTWs must meet additional reporting requirements (NR 210.11). | Verify that the CMAR is submitted by 31 March of each year. |
| 2-26. Installations with water systems and wastewater treatment plants must meet operator certification requirements (NR 114.14). | <p>Verify that installations with wastewater treatment plants have a person in direct responsible charge of the plant with a valid certificate for the corresponding subgrade at a grade the same as, or higher than, the plant class.</p> <p>(NOTE: An individual certified as a wastewater treatment plant operator at least at the grade 1 level for a plant subclass may be in direct responsible charge of that subclass of a class 2, 3, or 4 treatment plant for a period not to exceed 2 yr. An individual certified as a wastewater treatment plant operator-in-training may operate that subclass of treatment plant for a period not to exceed 1 yr. An individual certified as a wastewater treatment plant operator may be in direct responsible charge of a plant one class higher than the grade of the operators certification under certain conditions.)</p> <p>Verify that installations with water treatment plants have a person in direct responsible charge of the plant with a valid certificate for the corresponding subgrade at the grade 1 level.</p> |

| COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Wisconsin Supplement | |
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| 2-26. (continued) | <p>(NOTE: An individual certified as a water treatment plant operator-in-training may operate that subclass of treatment plant for a period not to exceed 1 yr.)</p> <p>Verify that installations with water treatment plants have a person designated as in direct responsible charge of the plant.</p> |
| 2-27. Installations that construct or modify POTWs must have Department approval (NR 108.03). | <p>Verify that the installation has Department Approval for any of the following activities:</p> <ul style="list-style-type: none"> - construction of any new community water system intended to serve 15 or more living units or having a source capacity greater than 70 gal/min - any improvements, extensions, or alterations which may effect the quality or quantity of water delivered by an existing community water system - any new sewerage system - any improvements, extensions, or alterations which may effect the quality or quantity of effluent or the location of outfall - any new industrial wastewater facility or any modification of an existing industrial wastewater facility. |
| 2-28. Installations with POTWs required to develop a pretreatment program must meet specific requirements (NR 211.23 and NR 211.235). | <p>Determine if the installation has a POTW that is required to develop a pretreatment program.</p> <p>Verify that the pretreatment program allows the POTW to at a minimum:</p> <ul style="list-style-type: none"> - identify and locate all possible industrial users who might be subject to the pretreatment program - reclassify an industrial user - identify the character and volume of the pollutants contributed by the POTW's industrial users - notify industrial users of applicable pretreatment standards and requirements including those relating to user charges and solid or hazardous waste disposal - randomly sample and analyze the effluent from industrial users - investigate instances of noncompliance by collecting and analyzing samples - make the information available to the Department and the USEPA upon request - annually publish a list of industrial users that were in significant noncompliance with applicable pretreatment standards. <p>Verify that the POTW develops an enforcement response plan which includes the following:</p> <ul style="list-style-type: none"> - a description of how the POTW will investigate instances of non-compliance - describe the escalating enforcement responses the POTW will take in response to all anticipated types of industrial user violations and the time periods the response will take place in - identify the title of the officials responsible for each type response. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| 2-28. (continued) | <p>Verify that a POTW with an approved pretreatment program meet the following requirements:</p> <ul style="list-style-type: none"> - control the discharge from each significant industrial user through individual control mechanisms - within 30 days after identifying an industrial user as a significant user, notify the industrial user of the newly designated status and requirements - inspect and sample the effluent from each significant industrial user at least once every 12 mo - evaluate each industrial use's slug control plan at east once every 24 mo. |
| 2-29. Installations with POTWs required to maintain a pretreatment program must meet additional reporting requirements (NR 211.25). | <p>Verify that the POTW submits interim program development documents to the Department as required in the WPDES permit.</p> <p>Verify that records and results from all monitoring activities are retained for a minimum of 3 yr.</p> <p>Verify that the records of monitoring activities are available for inspection and copying by the Department, the USEPA and the receiving POTW.</p> <p>Verify that analysis of monitoring samples taken by the POTW operating a pretreatment program are taken in accordance with state requirements NR 219.</p> <p>Verify any POTW operating a pretreatment program records all information resulting from monitoring activities.</p> <p>Verify that this information includes includes the following:</p> <ul style="list-style-type: none"> - the date, exact place, and time of sampling - the date the analyses were performed - the name of the person who conducted the analysis - the analytical techniques and methods used - the results of the analysis. <p>Verify that records and results from all monitoring activities required under the pretreatment program are retained for a minimum of 3 yr.</p> |
| PRETREATMENT STANDARDS | |
| 2-30. Installations are restricted from discharging certain substances to a POTW (NR 211.10). | <p>Verify that the installation does not discharge any substance to a POTW that could cause or threaten to:</p> <ul style="list-style-type: none"> - interference with or adversely effect the operation of the POTW - cause the POTW to violate its WPDES permit - pass through of any substances into the receiving waters that would cause or threaten pollution. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>2-30. (continued)</p> <p>2-31. Installations must meet pretreatment standards for specific point source categories (NR 211.11).</p> | <p>Verify that the installation discharges to a POTW do not contain the following:</p> <ul style="list-style-type: none"> - any substance that could cause or threaten a fire or explosion hazard to the POTW, including but not limited to wastestreams with a closed cup flash point of less than 140 °F or 60 °C - any substance that causes or threatens corrosive structural damage to the POTW - any substance with a pH less than 5.0 unless the POTW is designed to accommodate the discharge - any solid or viscous waste in amounts that causes or threatens to obstruct the sewers - any pollutant, including oxygen demand pollutants, released or discharged in a volume or strength that would cause interference with the operation of the POTW - heat in amounts that the temperature of the POTW influent exceeds 104 °F or 40 °C unless the POTW is designed to accommodate such heat - petroleum oil, nonbiodegradable cutting oil or products of mineral oil origin in amounts that would cause problems with pass through - pollutants that result in the presence of gases, vapors or fumes within the POTW in a quantity which may cause acute worker health or safety problems - any trucked or hauled pollutants, except at discharge points designated by the POTW. <p>Determine if the installation has an effluent that requires categorical pretreatment standards.</p> <p>(NOTE: The following is a list of activities have specific pretreatment standards: gum and wood chemical, manufacturing, animal waste management, grain mills, glass manufacturing, hospitals, paving and roofing materials, photographic processing, plastics and synthetics, paint and ink formation, pulp and paper manufacturing, rubber processing, soap and detergent manufacturing, textile industry. This list does not include all industrial activities that have categorical pretreatment standards.)</p> <p>Verify that all activities required meet categorical pretreatment standards comply with the applicable standards within 36 mo of the effective date of the standards.</p> <p>Verify that new sources required meet categorical pretreatment standards have in operating condition all equipment needed to meet the applicable pretreatment standards within 90 days of startup.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>2-32. Installations required to meet categorical pretreatment standards must meet specific monitoring and reporting requirements (NR 211.15(1)(a) through (1)(e) and NR 211.15(5),(6), and (7)).</p> | <p>Determine if the installation is required by the Department to meet any categorical pretreatment standards.</p> <p>Verify that installations required to meet categorical pretreatment standards submit a report within 180 days after the effective date of a categorical pretreatment standard.</p> <p>Verify that installations submit a report to the controlling authority at least 90 days before the commencement of new discharge.</p> <p>Verify that the report to the controlling authority contains the following information:</p> <ul style="list-style-type: none"> - the name, address, and location of the industrial user - a list of any environmental permits held by the user - the nature and average rate of production - the measured average and maximum flows in gallons per day - the nature and concentration of pollutants in the discharge - the time, date, and place of sampling - the method of analysis - a statement that the categorical pretreatment standards are being met. <p>(NOTE: New sources must also include in this report information regarding the pretreatment methods that will be used.)</p> |
| <p>2-33. Installations required to meet categorical pretreatment standards must meet specific sampling requirements (NR 211.15(1)(e)(1) through (1)(e)(5)).</p> | <p>Verify that effluent samples required for specific pretreatment categories are taken in the following manner:</p> <ul style="list-style-type: none"> - a minimum of four grab samples per day is used for: <ul style="list-style-type: none"> - pH - cyanide - total phenols - oil and grease - sulfides - volatile organic chemicals - both maximum and daily averages are reported - samples are representative of daily operations - all other samples are a 24 h flow composite - samples are taken at the discharge of the regulated process. <p>Verify that installations that are significant industrial users and which are not subject to categorical pretreatment standards and which discharge to a POTW with a pretreatment program submit semi-annual reports to the controlling authority.</p> <p>Verify that the installation notifies the POTW in advance of any substantial change in the volume or character of the pollution in the discharge.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| 2-33. (continued) | <p>Verify that the installation immediately notify the POTW of any slug loading of:</p> <ul style="list-style-type: none"> - any substance that could cause or threaten a fire or explosion hazard to the POTW, including but not limited to wastestreams with a closed cup flash point of less than 140 °F or 60 °C - any substance that causes or threatens corrosive structural damage to the POTW - any substance with a pH less than 5.0 unless the POTW is designed to accommodate the discharge - any solid or viscous waste in amounts that causes or threatens to obstruct the sewers - any pollutant, including oxygen demand pollutants, released or discharged in a volume or strength that would cause interference with the operation of the POTW - heat in amounts that the temperature of the POTW influent exceeds 104 °F or 40 °C unless the POTW is designed to accommodate such heat - petroleum oil, nonbiodegradable cutting oil or products of mineral oil origin in amounts that would cause problems with pass through - pollutants that result in the presence of gases, vapors or fumes within the POTW in a quantity which may cause acute worker health or safety problems - any trucked or hauled pollutants, except at discharge points designated by the POTW. <p>Verify that the installation notifies the control authority within 24 h of any sampling or analysis that indicates a violation of the discharge permit.</p> <p>Verify that installations that violates discharge limit conduct repeat sampling and submit the results to the control authority within 30 days of becoming aware of the violation.</p> <p>(NOTE: Laboratory test results for radiological samples submitted by the industrial user to the Department must be performed by a laboratory approved by the Department of Health and Social Services. Other laboratory test results submitted by the industrial user to the Department must be performed by a laboratory certified or registered by the state. Sample results submitted by the industrial user to the POTW need not be from a certified or registered laboratory. The following tests are excluded from this requirement:</p> <ul style="list-style-type: none"> - temperature - turbidity - bacteria tests in wastewater effluent - pH - chlorine residual - specific conductance - flow measurements.) |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>2-34. Installations required to meet categorical pretreatment standards must meet specific record keeping requirements (NR 211.15(8)(b) and (8)(c)).</p> | <p>Verify that the results of monitoring as required for permit compliance includes the following:</p> <ul style="list-style-type: none"> - the date, exact place, and time of sampling - the date the analyses were performed - the name of the person who conducted the analysis - the analytical techniques and methods used - the results of the analysis. <p>Verify that records and results from all monitoring activities are retained for a minimum of 3 yr.</p> <p>Verify that the records of monitoring activities are available for inspection and copying by the Department, the USEPA and the receiving POTW.</p> |
| <p>2-35. Installations that are classified as centralized waste treaters must meet additional monitoring and reporting requirements (NR 211.16).</p> | <p>Verify that the installation provide the following information to the Department 180 days before the commencement of effluent discharge at a centralized waste treatment facility:</p> <ul style="list-style-type: none"> - the name and location of the owner - a description of the treatment process and equipment - a schematic diagram of the process and a discussion of the performance capabilities - a description of the waste acceptance procedures - a description of the monitoring plans. <p>Verify that at least 60 days before accepting from an industrial category or manufacturing process not included in the initial report the centralized waste treater reports the following information to the Department:</p> <ul style="list-style-type: none"> - a description of the waste, including the industrial category - estimates of the volume of waste - a description of the treatment process and equipment that will be used. <p>Verify that the centralized waste treatment facility submit a semiannual report every June and December including the following:</p> <ul style="list-style-type: none"> - the name and location of each waste generator - the volume and date of arrival at the treatment facility and the name and address of the transporters if received by truck and rail - the applicable pretreatment standards including the generators production data if production based standards apply - effluent volume sampling and analytical results. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>2-36. Installations that discharge hazardous waste must meet specific requirements (NR 211.17).</p> | <p>Verify that the installation notifies in writing the POTW, the USEPA Regional V Waste Management Division Director and the Department's Bureau of Solid Waste management if and of the following occur:</p> <ul style="list-style-type: none"> - more than 15 kg per calendar month of any hazardous substances is disposed of - any disposal of an acute hazardous waste is disposed of. <p>Verify that the report contains the following information:</p> <ul style="list-style-type: none"> - the name and location of the hazardous waste owner - the hazardous waste number - whether the discharge is batch, continuous or other a certification that the industrial user has a program in place to reduce the extend of the discharge. <p>Verify that if the installation discharges more than 100 kg per calendar month of any hazardous substances that a report in writing is submitted to the POTW, the USEPA Regional V Waste Management Division Director and the Department's Bureau of Solid Waste Management, which includes the following in addition to the previous report requirements:</p> <ul style="list-style-type: none"> - the identity of the hazardous constituents in the listed wastes - the mass and concentration of the hazardous constituents in the wastestream - the mass of the hazardous constituents expected to be discharged in the next 3 mo. <p>(NOTE: These requirements do not apply to wastestreams already reported under self monitoring.)</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>2-37. Installations must meet requirements for bypass and upset (NR 211.19).</p> | <p>Determine if the installation is an industrial user and if the treatment system for the industrial process has had an upset or a bypass.</p> <p>Verify that industrial users control production and contain discharges to the extent necessary to maintain compliance with pretreatment standards and requirements.</p> <p>Verify that a bypass does not result in a violation of a pretreatment standard or requirement unless the following conditions are met:</p> <ul style="list-style-type: none"> - the bypass is necessary to prevent a loss of life - if an industrial user knows in advance the need for a bypass and notifies the control authority at least 100 days in advance. <p>Verify that the installation notifies the control authority no later than</p> <p>Verify that when a bypass or upset occurs the control authority is sent a written report within 5 days containing:</p> <ul style="list-style-type: none"> - a description of the bypass and the cause - the duration of the bypass including: <ul style="list-style-type: none"> - the dates and times the bypass occurred - if the bypass has not been corrected, the date and time it is expected to end - a description of the steps taken or planned to prevent a recurrence of the bypass. |

Appendix 2-1
Thermal Discharge Limits - Lake Michigan
(NR 102.05)

| | |
|-----------|-------|
| January | 45 °F |
| February | 45 °F |
| March | 45 °F |
| April | 55 °F |
| May | 60 °F |
| June | 70 °F |
| July | 80 °F |
| August | 80 °F |
| September | 80 °F |
| October | 65 °F |
| November | 60 °F |
| December | 50 °F |

Appendix 2-2
Thermal Discharge Limits - Mississippi River
(NR 102.06)

| | |
|-----------|-------|
| January | 40 °F |
| February | 40 °F |
| March | 54 °F |
| April | 65 °F |
| May | 75 °F |
| June | 84 °F |
| July | 84 °F |
| August | 84 °F |
| September | 82 °F |
| October | 73 °F |
| November | 58 °F |
| December | 48 °F |

Appendix 2-3
Water Quality Standards For Effluent Reports
(NR 101.11)

| Concentration (mg/L) and Quantity (lb/day) Levels | | | | |
|---|---------------|--------------------------|----------------|-------|
| Metals (Total) | Nutrients and | | Dissolved Ions | Level |
| | Level | | | |
| antimony | 0.20 | chloride | 50 | |
| arsenic | 0.05 | cyanide, total | 0.025 | |
| beryllium | 0.10 | fluoride | 2 | |
| cadmium | 0.05 | nitrogen | 0.60 | |
| chromium | 0.10 | nitrogen (no2, no3) | 0.60 | |
| copper | 0.10 | phosphorus, total | 0.10 | |
| lead | 0.10 | sulfate | 30 | |
| manganese | 0.10 | sulfide | 1 | |
| mercury | 0.0025 | | | |
| nickel | 0.20 | Organics - General Level | | |
| selenium | 0.05 | BOD ₂ S | 5 | |
| silver | 0.10 | oil & grease | 5 | |
| thallium | 0.05 | phenols | 0.05 | |
| zinc | 0.20 | | | |
| | | Other | | Level |
| Organics - Specific | Level | Chlorine, Total | | |
| aldrin | 0.001 | residual | 1 | |
| chlordane | 0.001 | total suspended | | |
| ddt | 0.001 | solids | 10 | |
| dieldrin | 0.001 | thermal discharge | 1 MBtu/day | |
| endrin | 0.001 | | | |
| hexachlorobenzene | 0.001 | | | |
| hexachlorocyclo- | | | | |
| hexane | 0.001 | | | |
| methoxychlor | 0.001 | | | |
| pentachlorophenol | 0.001 | | | |
| polychlorinated | | | | |
| biphenyls | 0.001 | | | |

| | | | |
|---------------------------------|--|--------------|---------------------|
| INSTALLATION: | COMPLIANCE CATEGORY: CLEAN WATER ACT (CWA) Wisconsin Supplement | DATE: | REVIEWER(S): |
| STATUS NA C RMA | REVIEWER COMMENTS: | | |
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SECTION 3

SAFE DRINKING WATER ACT (SDWA)

Wisconsin Supplement

SECTION 3

SAFE DRINKING WATER ACT (SDWA)

Wisconsin Supplement

Definitions

These definitions were taken from the Wisconsin Administrative Code (WAC), Department of Natural Resources (NR) 109.04 and NR 811.02.

- **Boil Water Notice** - a special type of public notice that informs consumers that the water is bacteriologically unsafe and must be boiled prior to consumption. A boil water notice includes the following information:
 - the water has tested bacteriologically unsafe for drinking
 - all water used for washing of eating utensils, drinking or cooking must be boiled at a rolling boil for at least 5 min
 - ice and any beverages prepared with unboiled water must be discarded
 - the above precautions are in effect until further notice.
- **CFR** - Code of Federal Regulations. Specifically, it refers to those sections of the code which deal with the National Primary and Secondary Drinking Water Standards.
- **Community Water System** - a public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 yr around residents. Any public water system that serves seven or more homes, 10 or more mobile homes, or 10 or more residential units.
- **Contaminant** - any physical, chemical, biological, or radiological substance or matter in water.
- **Corrosivity** - the tendency of water to form or dissolve calcium carbonate as a film or scale.
- **Cross Connection** - any connection between two otherwise separate systems, one of which contains potable water from a public water system and the other water from a private source, water of unknown or questionable safety or steam, gases or chemicals, whereby there may be a flow from one system to the other, the direction of flow depending on the pressure differential between the two systems.
- **Department** - the Department of Natural Resources.
- **Distribution System** - all pipes or conduits by which water is delivered to consumers except piping inside buildings served and service pipes from a building to a distribution main or pipe.
- **Dose Equivalent** - the product of the absorbed dose from ionizing radiation and such factors as account for differences in biological effectiveness due to the type of radiation and its distribution in the body as specified by the International Commission on Radiological Units and Measurements (ICRU).
- **EPA** - the U.S. Environmental Protection Agency.
- **Gross Alpha Particle Activity** - the total radioactivity due to alpha particle emission as inferred from measurement on a dry sample.

- *Gross Beta Particle Activity* - the total radioactivity due to a beta particle emission as inferred from measurement on a dry sample.
- *Groundwater* - that part of the subsurface water that is in the zone of saturation.
- *Groundwater Source* - all groundwater obtained from horizontal collectors, infiltration lines, springs, and dug, drilled or other types of wells.
- *Man-Made Beta Particle and Photon Emitters* - all radionuclides emitting beta particles and/or photons listed in *Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure*, NBS Handbook 69, except the daughter products of thorium-232, uranium-235, and uranium-238.
- *Maximum Contamination Level (MCL)* - the maximum allowable level of a contaminant in a water delivered to users of a public water system, (except in the case of turbidity where the maximum allowable level is measured at the point of entry into a distribution system. Contaminants occurring in the water resulting from circumstances controlled by the water user except those resulting from corrosion of piping and plumbing caused by water are excluded from this definition.)
- *Municipal Water System* - a community water system owned by a city, village, county, town, town sanitary district, utility district, public inland lake and rehabilitation district, municipal water district or a Federal, state, county, or municipal owned institution for congregate care or correction, or a privately owned water utility serving the foregoing.
- *Noncommunity Water System* - a public water system that is not a community water system.
- *Nontransient, Noncommunity Water System* - noncommunity water system that regularly serves at least 25 of the same persons over 6 mo/yr.
- *Other-Than-Municipal Water System* - a community water system that is not a municipal water system.
- *Person* - includes any individual, corporation, association, firm or partnership, municipal, state or Federal agency, or joint stock company and includes any receiver, special master, trustee, assignee, or other similar representative thereof.
- *PicoCurie (pCi)* - the quantity of radioactive material producing 2.22 nuclear transformations per minute.
- *Plant* - any facility for the obtainment of potable water, whether from surface or groundwater sources, for a community water system.
- *Point-of-Entry Treatment Device* - the treatment device applied to the drinking water entering a house or building for the purpose of reducing contaminants in the drinking water distributed throughout the house or building.
- *Point-of-Use Treatment Device* - a treatment device applied to a single tap used for the purpose of reducing contaminants in drinking water at that one tap.
- *Potable Water - See Safe Drinking Water.*
- *Primary Maximum Contaminant Levels* - those MCLs which represent minimum public health standards.

- **Public Health Hazard** - a condition, device or practice which is conducive to the introduction of waterborne disease organisms, or harmful chemical, physical, or radioactive substances into a public water system, and which presents an unreasonable risk to health.
- **Public Water System** - a system for the provision to the public of piped water for human consumption that has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. A public water system is either a community water system or a non-community water system. Such a system includes the following:
 - any collection, treatment, storage, and distribution facilities under control of the operator of such system and used primarily in connection with the system
 - any collection or pretreatment storage facilities not under such control that are used primarily in connection with the system.
- **rem** - the unit of dose equivalent from ionizing radiation to the total body or any internal organ or organ system. A millirem (mrem) is 1/1000 of a rem.
- **Sanitary Survey** - an onsite review of the water source, watershed, facilities, equipment, operation, and maintenance of the water system to produce and distribute safe drinking water.
- **Secondary Drinking Water Standards** - those standards for aesthetic parameters that represent minimum public welfare concerns but do not represent health standards.
- **Supplier of Water** - a person who owns or operates a public water system.
- **Surface Water** - all water which is open to the atmosphere and subject to surface water runoff.
- **Trihalomethanes** - the family of organic halogen compounds resulting from the displacement of three of the four hydrogen atoms in methane with chlorine, bromide, or iodine atoms in the molecular structure.
- **Turbidity** - a measure of the cloudiness of water caused by suspended particles. These units of measure for turbidity are nephelometric turbidity unit (NTU).
- **Water distribution system** - the portion of the water supply system in which the water is conveyed from the water treatment plant to the premise of a consumer.
- **Waterworks (Water System)** - all structures, conduits and appurtenances by means of which water is delivered to consumers except piping and fixtures inside buildings served, and service pipes from buildings to street mains.
- **Water Supplier** - a person, or group of persons, municipality, district, corporation, or other entity which owns or operates a public water system.
- **Well** - an excavation or opening into the ground made by digging, boring, drilling, driving, or other methods for the purpose of obtaining groundwater.

SAFE DRINKING WATER ACT (SDWA)
GUIDANCE FOR WISCONSIN CHECKLIST USERS

| Applicability: | Refer to Checklist Items: |
|--|--------------------------------------|
| Water System Authorizations | 3-1 |
| Monitoring Inorganic Chemicals | 3-2 through 3-5 |
| Corrosivity | 3-6 |
| Monitoring Pesticides and Herbicides | 3-7 |
| Monitoring Trihalomethanes | 3-8 and 3-9 |
| Volatile Organic Compounds (VOCs) | 3-10 through 3-12 |
| Monitoring Organic Contaminants | 3-13 |
| Microbiological Contaminants | 3-14 |
| Turbidity | 3-15 |
| Monitoring Radionuclides | 3-16 through 3-18 |
| Monitoring Secondary Chemical and Physical Standards | 3-19 through 3-21 |
| Laboratories | 3-22 |
| Reporting and Recordkeeping | 3-23 through 3-25 |
| Public Notification | 3-26 through 3-28 |
| Treatment Standards | 3-29 through 3-31 |
| Distribution Systems | 3-32 and 3-33 |
| Cross Connections | 3-34 |
| Wells | 3-35 |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| WATER SYSTEM AUTHORIZATIONS 3-1. Water systems must be authorized prior to the operation of a new water system or an improvement to an existing system (WAC, NR 811.11(1) and (2)). | <p>Verify that installations have obtained written authorization from the Department prior to placing the following into service:</p> <ul style="list-style-type: none"> - a new community water system - improvements to an existing community water system. <p>Verify that suppliers of water keep a current map of the system that shows the size and location of all facilities and appurtenances.</p> |
| MONITORING INORGANIC CHEMICALS 3-2. Community water systems must meet the monitoring standards for inorganic chemicals (WAC, NR 109.11(1), (2), 109.12(1), (2)(a), (2)(b), (3), and (4)). | <p>Verify that community water systems that utilize surface water sources analyze for inorganic chemicals as determined by the Department but not less than once per year.</p> <p>Verify that community water systems that utilize only groundwater sources analyze for inorganic chemicals within 90 days after system operation begins and repeats the analysis at intervals determined by the Department, but not less than 3 yr intervals.</p> <p>Verify that samples are collected at a point on the distribution system representative of water quality at the customer tap.</p> <p>Verify that community water systems do not exceed the MCLs for inorganic chemical limits listed in Appendix 3-1.</p> <p>Verify that community water systems that exceed an MCL for inorganic chemicals take the following actions:</p> <ul style="list-style-type: none"> - three additional samples are taken within 1 mo at the same sampling point - the Department is notified within 7 days of the violation. <p>Verify that if the average of the original sample and the three additional samples exceed the MCL, the Department and the public is notified.</p> <p>(NOTE: Monitoring after the MCL is violated is determined by the Department and must continue until the MCL has not been exceeded in two successive samples collected 30 to 60 days apart or a monitoring schedule, waiver, or enforcement action becomes effective.)</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>3-3. Community and noncommunity water systems must meet monitoring standards for nitrate (WAC, NR 109.11(1), (3), 109.12(2)(c), and (5)).</p> | <p>Verify that noncommunity water systems analyze for nitrate concentrations within 90 days after the system operation begins and repeated at intervals determined by the Department.</p> <p>Verify that community and noncommunity water systems do not exceed the MCL of 10 mg/L for nitrate.</p> <p>Verify that noncommunity water systems that are allowed by the Department to have nitrate as nitrogen levels to exceed the MCL meet the following standards:</p> <ul style="list-style-type: none"> - the nitrate as nitrogen level does not exceed 20 mg/L - water is not available to children under 6 mo of age - public is notified by continuous posting that the nitrate as nitrogen level exceeds 10 mg/L and the potential health effects of exposure - local and state public health authorities are notified annually that the nitrate as nitrogen levels exceed 10 mg/L - a supply of water that contains less than 10 mg/L nitrate as nitrogen, bacteriologically safe drinking water is provided for infants under 6 mo of age - no adverse health effects result. <p>Verify that the water system determines compliance with the MCL for nitrate as nitrogen on the basis of the mean of two analyses.</p> <p>Verify that waters systems that exceed the MCL for nitrate as nitrogen, collect a second sample within 24 h at the same site.</p> <p>Verify that if the average of the two analyses exceeds the MCL, the water system report the findings to the Department.</p> |
| <p>3-4. Community water systems must meet the monitoring standards for fluoride (WAC, NR 109.12(2)(d), (2)(e)).</p> | <p>Verify that community water systems monitor for fluoride as determined by the Department but not less than one sample every 10 yr.</p> <p>Verify that suppliers of water sample for natural fluoride at each entry point to the distribution system.</p> |
| <p>3-5. Community water systems must meet monitoring standards for sodium (WAC, NR 109.13).</p> | <p>Verify that community water systems collect and analyze one sample per plant at a representative point on the distribution system for determining sodium concentrations.</p> <p>Verify that community water systems that utilize surface water sources in whole or in part analyze for sodium annually.</p> <p>Verify that community water systems that utilize groundwater sources analyze for sodium at least every 3 yr.</p> <p>Verify that the community water system reports the results of sodium testing to the Department within the first 10 days of the month following the month in which the samples were taken or within the first 10 days following the end of the required monitoring period as stipulated by the Department, whichever is first.</p> |

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| <p>3-5. (continued)</p> <p>CORROSIVITY</p> <p>3-6. Installations with community water systems must meet specific requirements for corrosivity (WAC, NR 109.14).</p> | <p>Verify that if more than annual sampling is required by the Department, the average sodium concentration is reported within 10 days of the month following the month that the analytical results of the last sample used for the annual average was received.</p> <p>Verify that the community water system reports the results of sodium testing to the local health officials by direct mail within 3 mo of the receipt of the results.</p> |
| | <p>Verify that community water systems collect at least two samples from each plant that uses surface water sources in whole or in part, one during midwinter and one during midsummer.</p> <p>Verify that community water systems collect one sample per plant that uses groundwater sources or more if required by the Department.</p> <p>Verify that corrosivity water samples are collected from a point that is representative of water entering the distribution system.</p> <p>Verify that the community water system determines the corrosivity characteristics of the water by measuring the following parameters:</p> <ul style="list-style-type: none"> - pH - alkalinity - calcium hardness - total dissolved solids (total filterable solids) - water temperature - calculation of the Langelier Index. <p>Verify that the community water system report to the Department the results of the analysis for the corrosivity characteristics within the first 10 days of the month following the month the results were received.</p> <p>Verify that community water systems report to the Department if any of the following construction materials are present in the distribution system:</p> <ul style="list-style-type: none"> - lead from piping, solder, caulking, interior lining of distribution mains, alloys or other sources - copper from piping, alloys, service lines or other sources - galvanized piping in service lines - ferrous piping materials, such as cast iron and steel - asbestos cement pipe - vinyl lined asbestos cement pipe - coal tar lined pipes and tanks. <p>Verify that community water systems with a Langelier Index value more corrosive than -1.0 sample the distribution system to determine the presence of corrosion products as determined by the Department.</p> |

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| <p>3-6. (continued)</p> <p>MONITORING PESTICIDES AND HERBICIDES</p> <p>3-7. Installations with community water systems must meet monitoring standards for nonvolatile organochlorine and chlorophenoxy acid herbicides (WAC, NR 109.20).</p> <p>MONITORING TRIHALOMETHANES</p> <p>3-8. Installations with community water systems that add an oxidant to the water as a means of disinfection must meet specific monitoring standards for trihalomethanes (WAC, NR 109.22 through NR 109.23).</p> | <p>(NOTE: The Department may require systems with corrosion products or a Langelier Index value more corrosive than -2.0 to implement corrosion-control measures.)</p> <p>Verify that community water systems do not exceed the MCL listed in Appendix 3-2.</p> <p>Verify that community water systems using surface water sources sample as required by the Department, but not less than once every 3 yr.</p> <p>Verify that community water systems using groundwater sources sample as required by the Department.</p> <p>Verify that the samples are taken during a period of the year designated by the Division as the period when contamination by pesticides is most likely to occur.</p> <p>Verify that community water systems that exceed the MCL of Appendix 3-2 do the following:</p> <ul style="list-style-type: none"> - notify the Department within 7 days - collect three additional samples within 1 mo. <p>Verify that if the average of the four analyses exceeds the MCL, the Department and the public is notified.</p> <p>(NOTE: Monitoring after the MCL is exceeded is at a frequency determined by the Department and continue until the MCL is not exceeded in two successive samples or until a monitoring schedule, a waiver or enforcement action becomes effective.)</p> <p>Determine if the installation has community water system serving 10,000 or more people and add a disinfectant (oxidant) to the water during the drinking water treatment process.</p> <p>Verify that the water system analyze for total trihalomethanes (TTHMs).</p> <p>Verify that all community water systems using surface or groundwater sources analyze for TTHMs at quarterly intervals on at least four water samples for each system.</p> |

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| <p>3-8. (continued)</p> | <p>Verify that at least 25 percent of the samples are collected from distribution system locations reflecting the maximum residence time of the water in the system and the remaining 75 percent collected at representative locations.</p> <p>Verify that all samples taken within an established monitoring period are collected within a 24-h period.</p> <p>Verify that the results of all analyses per quarter are averaged and reported to the Department within 30 days of receipt of the results.</p> <p>Verify that all samples collected are used in the average's computation unless the sample is invalidated for technical reasons.</p> <p>Verify that the MCL for TTHM does not exceed 0.1 mg/L.</p> <p>Verify that water systems with an average of samples covering any 12 mo period exceeds the MCL, the Department and the public is notified.</p> <p>Verify that community water systems that exceed the MCL for TTHMs monitor at a frequency determined by the Division until another monitoring schedule, waiver, or enforcement action becomes effective.</p> |
| <p>3-9. Community water systems subject to Department approved reduced monitoring for TTHMs must meet additional monitoring standards (NR 109.23(2)(b) and (3)(b)).</p> | <p>Determine if the community water system is subject to Department approved reduced monitoring for TTHM.</p> <p>Verify that sampling for TTHMs is done at a point in the distribution system reflecting the maximum residence time of water in the system.</p> <p>Verify that water systems with any TTHM analysis that equals to or exceeds 0.10 mg/L immediately collects a check sample.</p> <p>Verify that water systems return to the nonreduced monitoring frequency for at least 1 yr in either of the following cases:</p> <ul style="list-style-type: none"> - the check sample confirms that TTHMs equal or exceed 0.10 mg/L - the system makes any significant change to its source of water or treatment program. <p>(NOTE: The monitoring frequencies may be increased by the Department.)</p> |

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| <p>VOLATILE ORGANIC COMPOUND (VOC)</p> <p>3-10. Installations with community water systems and nontransient, non-community water systems must meet monitoring standards for VOCs (WAC, NR 109.24 through NR 109.25).</p> <p>3-11. Water systems that detect specific 2-carbon organic compounds must monitor for vinyl chloride (WAC, NR 109.25(6)).</p> <p>3-12. Water systems subject to reduced VOC monitoring must meet additional monitoring standards (WAC, NR 109.25(7)).</p> | <p>Verify that community and nontransient, noncommunity water systems do not exceed the MCLs listed in Appendix 3-3.</p> <p>Verify that water systems using groundwater sources sample at points of entry into the distribution system representative of each well after any application of treatment.</p> <p>Verify that water systems using surface water sources sample at points in the distribution representative of each source or at entry points to the distribution system after any application of treatment.</p> <p>Verify that the water system samples for VOCs at the same location or a more representative location each quarter.</p> <p>Verify that each entry point to the distribution system is samples every 3 mo unless specified otherwise by the Department.</p> <p>Verify that systems that draw from more than one source and the sources are combined before distribution sample at the entry point to the distribution system during periods of normal operating conditions.</p> <p>Determine if the water system utilizes groundwater and has detected one or more of the following 2-carbon organic compounds:</p> <ul style="list-style-type: none"> - trichloroethylene - tetrachloroethylene - 1,2-dichloroethane - 1,1,1-trichloroethane - cis-1,2-dichloroethylene - trans-1,2-dichloroethylene - 1,1-dichloroethylene. <p>Verify that the system analyzes for vinyl chloride at each distribution or entry point at which one or more of the 2-carbon organic compounds were found.</p> <p>(NOTE: The Department may reduce the frequency of vinyl chloride monitoring to once every 3 yr if the first analysis does not detect vinyl chloride. Water systems that utilize surface water may be required to analyze for vinyl chloride.)</p> <p>(NOTE: Water systems are determined by the Department to be vulnerable or not vulnerable.)</p> <p>Determine if the water system is subject to reduced VOC monitoring.</p> <p>Verify that groundwater systems that are not vulnerable and VOCs were not detected in the first sample or any subsequent samples monitor for VOCs every 5 yr.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| 3-12. (continued) | <p>Verify that vulnerable groundwater systems and VOCs were not detected in the first sample or subsequent samples monitor for VOCs as follows:</p> <ul style="list-style-type: none"> - systems that serve more than 500 connections, every 3 yr - systems that serve less than 500 connections, every 5 yr. <p>Verify that surface water systems that are not vulnerable and VOCs were not detected in the first year of quarterly sampling or any other subsequent sampling monitor for VOCs as determined by the Department.</p> <p>Verify that vulnerable surface water systems and VOCs were not detected in the first year of quarterly sampling or any other subsequent sample monitor for VOCs as follows:</p> <ul style="list-style-type: none"> - systems that serve more than 500 service connections, every 3 yr - systems that serve less than 500 service connections, every 5 yr. <p>Verify that VOCs are detected in any sample, the system does the following:</p> <ul style="list-style-type: none"> - submit a report to the Department within 7 days - collect three additional samples at 5 to 10-day intervals during the next 30 days - monitoring thereafter repeated every 3 mo as per nonreduced monitoring frequency. <p>(NOTE: Systems are considered vulnerable for a period of 3 yr after any positive measurement of one or more VOC contaminants except for trihalomethanes or other demonstrated disinfection by-products.)</p> |
| MONITORING ORGANIC CONTAMINANTS | <p>3-13. Installations with community water systems and nontransient, non-community water systems must meet monitoring standards for organic compounds (WAC, NR 109.26).</p> <p>Verify that community and noncommunity, nontransient water systems do not exceed the MCLs listed in Appendix 3-4.</p> <p>Verify that surface water systems sample as follows:</p> <ul style="list-style-type: none"> - at points in the distribution system representative of each source or at entry points to the distribution system after any application of treatment - at least 1 yr of quarterly samples per water source. <p>Verify that groundwater systems sample as follows:</p> <ul style="list-style-type: none"> - at points of entry into the distribution system representative of each well after any application of treatment - at least one sample per entry point to the distribution system. |

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| <p>3-13. (continued)</p> <p>MICROBIOLOGICAL CONTAMINANTS</p> <p>3-14. Installations with community and noncommunity water systems must monitor for microbiological contaminants (WAC, NR 109.30).</p> | <p>Verify that nontransient, noncommunity water systems monitor for organic compounds no less frequently than every 5 yr.</p> <p>(NOTE: The Department may require that community or nontransient, noncommunity water systems to monitor for ethylene dibromide (EDB), 1,2-dibromo-3-chloropropane (DBCP), or the compounds listed in Appendix 3-5.)</p> <p>Verify that water systems submit the results of organic contaminant monitoring to the Department within 30 days of receipt of the results.</p> <p>Verify that persons served by the system are notified of the availability of the organic contaminant monitoring results in the first set of water bill issued by the system or a written notice within 3 mo.</p> <p>Verify public notices include a person and telephone number to contact for information on the monitoring results.</p> |
| | <p>Verify that water systems that use the membrane filter technique do not exceed one coliform bacteria per 100 mL in any sample collected.</p> <p>Verify that water systems that use the fermentation tube method and 10 mL standard, coliform bacteria is not present in any portion of any sample collected.</p> <p>Verify that water systems identify the cause of the positive bacteriological sample results and eliminate any potential health hazards in the system when coliform organisms are present in the following percentages:</p> <ul style="list-style-type: none"> - systems that collect more than 20 samples per quarter, present in more than 10 percent of the samples - systems that collect 6 to 20 samples per quarter, present in two or more samples - systems that collect less than 24 samples per year, present in two or more samples. |

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| <p>3-14. (continued)</p> | <p>Verify that if the heterotrophic plate count exceeds 500 that the Department is notified.</p> <p>Verify that noncommunity water systems sample for coliform bacteria in each calendar quarter that the system provides water to the public unless otherwise determined by the Department.</p> <p>Verify that the water system samples at the interval specified by the population given in Appendix 3-6.</p> <p>Verify that community water systems that collect a sample that exceeds the MCL for coliform bacteria collect a repeat sample from the same sampling point and at least two additional samples at adjacent or nearby service connections within 48 h.</p> <p>Verify that noncommunity water systems that collect a sample that exceeds the MCL for coliform bacteria collect a repeat sample from the same sampling point within 48 h.</p> <p>Verify that water systems with water samples that indicate the presence of coliform organisms in the distribution system do the following:</p> <ul style="list-style-type: none"> - notify the Department within 48 h - initiate an investigation to determine the extent of the problem including the collection and examination of additional samples within 48 h - notify the public unless otherwise determined by the Department. <p>Verify that in addition to sampling from the distribution system, that each supplier of water for a system providing chlorination obtains at least one sample every 3 mo from each well prior to the point of any application of any chemical.</p> <p>Verify that surface water facilities establish a schedule for monitoring bacteriological quality of the water in order to maintain quality control of the treatment process.</p> |

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| TURBIDITY 3-15. Community and noncommunity water systems that use surface water sources in whole or in part must meet turbidity monitoring standards (WAC, NR 109.40 and NR 109.41). | <p>Verify that community and noncommunity water systems using surface water sources in whole or in part do not exceed the following:</p> <ul style="list-style-type: none"> - 1 nephelometric turbidity unit (NTU) as determined by a monthly average unless otherwise determined by the Department. - 5 NTU based on an average for 2 consecutive days. <p>Verify that samples are taken at representative entry points to the water distribution system at least once per day.</p> <p>Verify that if the results of a turbidity analysis exceeds the MCL, it is confirmed by resampling as soon as practicable and preferably within 1 h.</p> <p>Verify that if the repeat sample confirms that the MCL has been exceeded, the water system submits a report to the Department within 48 h.</p> <p>Verify that if the monthly average of the daily samples exceed the MCL or if the average of two samples taken on consecutive days exceeds 5 NTU, the Department and the public is notified.</p> |

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| <p>MONITORING RADIONUCLIDES</p> <p>3-16. Community water systems must meet monitoring standards for radium-226, radium-228, and gross alpha particle radioactivity (WAC, NR 109.50 and 109.53(1)).</p> | <p>Verify that community water systems do not exceed the following MCLs:</p> <ul style="list-style-type: none"> - combined radium-226 and radium-228, 5 pCi/L - gross alpha particle activity including radium-226 but excluding radon and uranium, 15 pCi/L. <p>Verify that water systems conduct initial sampling within 90 days after the system begins operation.</p> <p>Verify that compliance is based on the analysis of an annual composite of four consecutive quarterly samples or the average of the analysis of four samples obtained at quarterly intervals.</p> <p>Verify that community water systems that use two or more sources with different concentrations of radioactivity monitor source water in addition to water from the consumer service outlet.</p> <p>Verify that community water systems that measure gross alpha particle activity as a substitution for the required radium-226 and radium-228 analysis have a gross alpha particle activity that does not exceed 5 pCi/L at a confidence level of 95 percent.</p> <p>(NOTE: The Department may require radium-226 and/or radium-228 analyses when the gross alpha particle activity exceeds 2 pCi/L.)</p> <p>Verify that community water systems with a gross alpha particle activity that exceeds 5 pCi/L, the same or an equivalent sample is analyzed for radium-226.</p> <p>Verify that community water systems with a radium-226 level that exceeds 3 pCi/L, the same or equivalent sample is analyzed for radium-228.</p> <p>Verify that the community water system monitors at least once every 4 yr.</p> <p>(NOTE: The Department may require more frequent monitoring. The Department may require annual monitoring of any community water system with a radium-226 concentration that exceeds 3 pCi/L.)</p> <p>Verify that water systems that exceed the average annual MCL for gross alpha particle activity or total radium the following is done:</p> <ul style="list-style-type: none"> - the Department and the public are notified - monitoring at quarterly intervals is continued until the annual average concentration no longer exceeds the MCL or until a monitoring schedule, waiver, or enforcement action becomes effective. |

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| <p>3-17. Community water systems must meet monitoring standards for beta particle and photon radioactivity from manmade radionuclides (WAC, NR 109.51 and 109.53(2)(a), (2)(b), and (2)(d)).</p> | <p>Verify that community water systems that utilize surface water sources, serve more than 100,000 persons or are designated by the Department monitor for beta and photon radioactivity from manmade radionuclides.</p> <p>Verify that initial compliance is determined by analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples.</p> <p>(NOTE: Compliance is assumed without further analysis if the average annual concentration of gross beta particle activity is less than 50 pCi/L and if the average annual concentrations for tritium is less than 20,000 pCi/L and strontium-90 is less than 8 pCi/L provided that if both radionuclides are present, the sum of their annual dose equivalents to bone marrow do not exceed 4 millirem (mrem)/yr.)</p> <p>Verify that the average annual concentration of beta particle and photon radioactivity from manmade radionuclides in drinking water does not produce an annual dose equivalent to the total body or any internal organ greater than 4 mrem/yr.</p> <p>Verify that community water systems do not exceed the following average annual concentrations:</p> <ul style="list-style-type: none"> - tritium, total body, 20,000 pCi/L - strontium-90, bone marrow, 8 pCi/L. <p>Verify that if two or more radionuclides are present, the sum of their annual dose equivalent to the total body or to any organ does not exceed 4 mrem/yr.</p> <p>Verify that water systems with a gross beta particle activity that exceeds 50 pCi/L, an analysis of the sample is performed to identify the major radioactive constituents present and the appropriate organ and total body doses are calculated to determine compliance.</p> <p>(NOTE: The Department may require additional monitoring or ground-water systems to monitor for manmade radioactivity.)</p> <p>Verify that after the initial analysis, water systems monitor at least every 4 yr.</p> <p>Verify that if the average annual MCL for manmade radioactivity is exceeded the community water system does the following:</p> <ul style="list-style-type: none"> - notify the Department and the public - monitor at monthly intervals until the concentration no longer exceeds the MCL or until a monitoring schedule becomes effective. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>3-18. Community water systems designated by the Department as utilizing waters subject to contamination by effluents from nuclear facilities must meet additional monitoring standards (WAC, NR 109.53(2)(c)).</p> <p>MONITORING SECONDARY CHEMICAL AND PHYSICAL STANDARDS</p> <p>3-19. Public water systems must comply with secondary standards for inorganic chemicals (WAC, NR 109.60).</p> | <p>Determine if the community water systems is designated by the Department as utilizing waters subject to contamination by effluents from nuclear facilities.</p> <p>Verify that the system monitor the following:</p> <ul style="list-style-type: none"> - gross beta particle and iodine-131 radioactivity quarterly - strontium-90 and tritium annually. <p>Verify that quarterly monitoring of gross beta particle activity is based on the analysis of monthly samples or the analysis of a composite of three monthly samples.</p> <p>Verify that water systems with a gross beta particle activity that exceeds 15 pCi/L analyze the same or equivalent sample for strontium-89 and cesium-134.</p> <p>Verify that water systems with a gross beta particle activity that exceeds 50 pCi/L, an analysis of the sample is performed to identify the major radioactive constituents present and the appropriate organ and total body doses are calculated to determine compliance.</p> <p>Verify that the monitoring of iodine-131 is based on a composite of 5 consecutive daily samples analyzed once each quarter.</p> <p>Verify that annual monitoring for strontium-90 and tritium is conducted by means of the analysis of a composite of four consecutive quarterly samples or analysis of four quarterly samples.</p> <p>(NOTE: The Department may allow environmental surveillance data taken in conjunction with a nuclear facility as a substitution of direct monitoring of manmade radioactivity.)</p> |
| | <p>Determine if the public water system is required by the Department to implement a monitoring program to determine compliance with secondary standards for inorganic chemicals.</p> <p>Verify that the public water system does not exceed the secondary standards for inorganic chemicals listed in Appendix 3-7.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|---|---|
| 3-19. (continued) | <p>Verify that community water systems that exceed the secondary MCL for fluoride of 2.0 mg/L but not the primary MCL of 4.0 mg/L perform the following notifications:</p> <ul style="list-style-type: none"> - notify all billing units annually - all new billing units at the time service begins - notify the Department and the Department of Health and Social Services annually. |
| 3-20. Community water systems that artificially fluoridate the water must meet a monitoring program standards (WAC, NR 109.70(1)). | <p>Determine if the community water system artificially fluoridates the water.</p> <p>Verify that a monitoring program is established in order to maintain the fluoride concentration within the range of 1.0 to 1.5 mg/L.</p> <p>Verify that the monitoring program includes:</p> <ul style="list-style-type: none"> - submission of the results of daily fluoride tests of samples from the distribution system - one sample per month taken from a representative location in the distribution system and submitted to the State Laboratory of Hygiene. <p>Verify that a sample is submitted to the State Laboratory of Hygiene and compared with the results of the same sample analyzed with system's equipment and the results noted on a data sheet.</p> |
| 3-21. Water systems that chlorinate water must meet additional monitoring standards (WAC, NR 109.70(2)). | <p>Determine if the water system chlorinates the water.</p> <p>Verify that the water system tests chlorine residuals at locations and intervals necessary to control the chlorination process.</p> <p>Verify that water systems with groundwater sources sample for chlorine residual from a representative location in the distribution system at least twice per week.</p> <p>Verify that surface water systems sample for chlorine residual in the plant effluent at least every 2 h and in the distribution system at least daily in representative locations.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|---|--|
| LABORATORIES 3-22. Installations with water systems must meet laboratory standards for sample analyzation (WAC, NR 109.72). | <p>Verify that bacteriological and radiological samples are analyzed at a laboratory facility certified or approved by the Department of Health and Social Services or acceptable to the USEPA.</p> <p>Verify that samples not taken for bacteriological or radiological analyses are analyzed at the State Laboratory of Hygiene or at a certified laboratory.</p> <p>Verify that community water systems utilizing surface water sources analyze bacteriological samples for in-plant operational control at a laboratory facility approved by the Department of Health and Social Services.</p> |
| REPORTING AND RECORDKEEPING 3-23. Public water systems must meet reporting requirements to submit reports to the Department (NR 109.80). | <p>Verify that except where a shorter period is required, water systems report to the Department the results of any test measurement or analysis as follows whichever is shortest:</p> <ul style="list-style-type: none"> - within the first 10 days following the month that receipt of the results - within the first ten days following the end of the required monitoring periods stipulated by the Department. <p>Verify that water systems submit a report to the Department within 48 h of a failure to comply with any MCL or monitoring requirement.</p> <p>(NOTE: Water systems are not required to report analytical results to the Department in cases where the State Laboratory of Hygiene performs the analysis and reports the results to the Department.)</p> <p>Verify that water systems submit to the Department a copy of any public notice within 10 days of completion of each public notice.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|--|---|
| <p>3-24. Public water systems must meet record maintenance standards (WAC, NR 109.82).</p> | <p>Verify that public water systems maintain the following records:</p> <ul style="list-style-type: none"> - bacteriological analyses for 5 yr - chemical analyses for 10 yr - actions taken to correct items of noncompliance for 3 yr after the last action taken - reports, summaries or communications on sanitary surveys for 10 yr - records concerning variances or exemptions granted to the system, for at least 5 yr following the expiration of the variance or exemption. <p>Verify that the following data is maintained:</p> <ul style="list-style-type: none"> - date, place and time of sampling, and the name of the person who collected the sample - identification of the sample as to whether it was a routine finished water sample, check sample, raw water sample or special purpose sample - date and time of the analysis, the laboratory and person performing the analysis - analytical method used and the results of the analysis. |
| <p>3-25. Installations that are suppliers of water must meet monthly reporting standards (WAC, NR 811.05(2)).</p> | <p>(NOTE: Data may be transferred to tabular summaries.)</p> <p>Verify that suppliers of water to municipal water systems submit monthly reports to the Department that include the following information:</p> <ul style="list-style-type: none"> - daily quantities of water pumped - daily quantities of chemicals added to the water - daily operation of treatment processes - results of chemical, physical or any other tests performed for plant control - calculated theoretical residuals and residual test results - weekly groundwater depth measurements, were applicable. <p>Verify that suppliers of water for other than municipal water systems with a groundwater source capacity exceeding 70 gal/min and/or are chemically treating the water supply submit monthly reports that include the following information:</p> <ul style="list-style-type: none"> - total monthly pumpage of water - groundwater depth measurements. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|--|--|
| <p>PUBLIC NOTIFICATION</p> <p>3-26. Public water systems that fail to comply with an applicable MCL, treatment technique, or the requirements of a variance or conditional waiver must meet public notification standards (WAC, NR 109.81(1)).</p> | <p>Determine if the public water system failed to comply with an applicable MCL, treatment technique, or the requirements of a variance or conditional waiver.</p> <p>Verify that the public water system notify the public as follows:</p> <ul style="list-style-type: none"> - publication in a daily newspaper within 14 days after the noncompliance has been determined - by mail delivery not later than 45 days after the violation occurred. <p>Verify that public notification by mail delivery or hand delivery continues once every 3 mo for as long as the violation or failure exists.</p> <p>Verify that public water systems with the following acute risk violations additionally furnish a copy of the notice to radio and television stations within 72 h after the violation:</p> <ul style="list-style-type: none"> - violation of the MCL for nitrate - any violation of the microbiological MCL determined by the Department to warrant a notification to boil water - any violation specified by the Department as posing an acute risk to human health. <p>Verify that water systems in areas that are not served by a daily newspaper of general circulation, publish a notice in a weekly newspaper of general circulation.</p> <p>Verify that community water systems in areas that are not served by a daily or weekly newspaper of general circulation give notice by hand delivery or by continuous posting in conspicuous places within the area served within 14 days after the violation or failure.</p> <p>Verify that noncommunity water systems give notice within 72 h after the violation or failure by continuous posting in conspicuous places within the area served by the system.</p> <p>Verify that systems such as a restaurant that is permitted to serve water exceeding a MCL to customers away from water outlets provide written public notice at each table.</p> <p>Verify that any notification by posting continues for as long as the violation or failure exists.</p> <p>Verify that any notification by hand delivery is repeated at least every 3 mo for as long as the violation or failure exists.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|--|---|
| <p>3-27. Public water systems that fail to perform monitoring and/or reporting, fail to comply with a testing procedure, or is granted a variance or exemption must meet public notification standards (WAC, NR 109.81(2)).</p> | <p>Determine if the installation has a public water system that has either failed to perform a monitoring and/or reporting, failed to comply with a testing procedure, or has been granted an exemption or variance.</p> <p>Verify that the public water system notifies the public as follows:</p> <ul style="list-style-type: none"> - publication in a daily newspaper within 3 mo - by mail delivery once every 3 mo or by hand delivery for as long as the violation exists or the variance or exemption remains in effect. <p>Verify that water systems in areas that are not served by a daily newspaper of general circulation, publish a notice within 3 mo in a weekly newspaper of general circulation.</p> <p>Verify that community water systems in areas that are not served by a daily or weekly newspaper of general circulation give notice by hand delivery or by continuous posting in conspicuous places within the area served by the system within 3 mo.</p> <p>Verify that noncommunity water systems provide notice within 72 h of the violation or the granting of the variance or conditional waiver by continuous posting at all drinking water outlets within the area served by the system.</p> <p>Verify that community water systems that serve an institution and granted a variance from the MCL for nitrate as nitrogen provide notice within 72 h of the granting of the variance by continuous posting at all drinking water outlets within the area served by the system.</p> <p>Verify that any notification by posting continues for as long as the violation exists or the variance or exemption remains in effect.</p> <p>Verify that any notification by hand delivery is repeated at least every 3 mo for as long as the violation exists or a variance or exemption remains in effect.</p> <p>Verify that summary public notices for bacteriological monitoring violations totaling no more than 3 mo in any calendar year are provided no later than 90 days after the end of the year in which the violations occurred.</p> |

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|---|--|
| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>3-28. Public water systems that are required to notify the public must meet notification standards (WAC, NR 109.81(3) and (4)).</p> | <p>Verify that community water systems submit a copy of the most recent public notice for any outstanding violation of any MCL, treatment technique requirement or conditional waiver to all new billing units or new hookups prior to or at the time service begins.</p> <p>Verify that public notices are clear and readily understandable explanation of the following:</p> <ul style="list-style-type: none"> - the violation - any potential adverse health effects - the population at risk - the steps that the public water system is taking to correct the violation - the necessity for seeking alternative water supplies - any preventive measures the consumers should take until the violation has been corrected - a telephone number for additional information. <p>Verify that each notice is conspicuous and not contain unduly technical language, unduly small print, or similar problems that frustrate the purpose of the notice.</p> <p>Verify that where appropriate the notice is multi-lingual.</p> |
| <p>TREATMENT STANDARDS</p> <p>3-29. Public water systems with surface water sources must meet treatment and disinfection standards (WAC, NR 811.07(1)).</p> | <p>Determine if the installations has a public water system that draw water from lakes, river, streams or other surface water sources.</p> <p>Verify that the free chlorine concentration in the water entering the distribution systems is at least 0.2 mg/L at the entry point to the distribution system and detectable throughout the distribution system or a total combined chlorine concentration is at least 1.0 mg/L at the entry point to the distribution system and detectable throughout the distribution system.</p> |
| <p>3-30. Public water systems with groundwater sources must meet treatment and disinfection standards (WAC, NR 811.07(2)).</p> | <p>Verify that groundwater systems that are required to disinfect the water to maintain bacteriologically safe water maintain a residual in the distribution system that meets the standards of surface water systems.</p> |
| <p>3-31. Public water systems must meet chemical treatment standards (WAC, NR 811.07(4)).</p> | <p>Verify that municipal water systems and other-than-municipal water systems that serve subdivisions are equipped with chemical feed equipment and the necessary appurtenances that can continuously disinfect the water.</p> |

| COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Wisconsin Supplement | |
|---|---|
| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| 3-31. (continued) | <p>Verify that surface water treatment plants and other waterworks that are required to treat the water are equipped with backup chemical feed equipment in the event of a failure of the primary equipment.</p> <p>Verify that community water systems that add chemicals to the system meet the following standards:</p> <ul style="list-style-type: none"> - have obtained approval from the Department prior to the addition of any chemical into the system - a 30-day supply of chemicals are maintained on hand - chemical containers are labeled to include the chemical name, purity, concentration and name and address of the supplier. <p>Verify that written Departmental approval is obtained prior to the use of any indirect chemical or material that may affect the quality of the water supply due to immersion or incidental contact in the water system.</p> |
| DISTRIBUTION SYSTEMS | <p>3-32. Installations with distribution systems must meet operating standards (WAC, NR 811.08(2) and (3)).</p> <p>Verify that the distribution system, system pumps, and related storage facilities are operated to maintain a minimum of 35 psi at ground level at all locations in the distribution system under normal operating conditions.</p> <p>Verify that the distribution system is operated so that under fire flow conditions, the residual pressure in the distribution systems is not less than 20 psi at ground level.</p> <p>Verify that distribution systems that cannot maintain a residual pressure of 20 psi during operation of the pumpers do the following:</p> <ul style="list-style-type: none"> - not allow fire pumpers to connect to fire hydrants - notify the fire chief in writing of the locations of all fire hydrants that cannot be used by fire pumpers - color code or tag the affected hydrants. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|--|--|
| <p>3-33. Installations with a positive distribution system pressure loss in an area affecting 25 percent or more of the distribution system must take specific corrective action (WAC, NR 811.09(4)).</p> | <p>Determine if the installation has had a positive distribution system pressure loss in an area that affected 25 percent or more of the distribution system.</p> <p>Verify that the supplier of water restored system pressure and performed the following as necessary:</p> <ul style="list-style-type: none"> - notified the appropriate District office of the Department no later than 1 working day after the pressure loss as to the extent of the problem, cause, and corrective action taken - if the system is not already continuously disinfected, started emergency disinfection that continued until the Department approval was obtained to cease - water mains and storage facilities in the area that lost pressure are flushed to remove contaminated water and established adequate disinfectant residual - conducted bacteriological analysis from the distribution system pressure loss area as soon as adequate pressure was returned to the system - immediately issued a boil water notice to all affected water consumers unless otherwise determined by the Department - notified the public unless otherwise determined by the Department - took correction actions necessary to prevent additional significant pressure losses. |
| <p>CROSS CONNECTIONS</p> <p>3-34. Water suppliers of water systems must meet cross connection control standards (WAC, NR 811.09).</p> | <p>Verify that the installation does not install or replace cross-connections.</p> <p>Verify that water suppliers of municipal water systems develop and implement a comprehensive control program for the elimination of all existing cross connections and the prevention of all future cross-connections.</p> <p>Verify that a record of the cross-connection control program is kept current.</p> <p>Verify that the program includes the following:</p> <ul style="list-style-type: none"> - a complete description of the program - local authority for implementing the program - time schedules for inspection of consumer premises for cross-connections and appropriate recordkeeping - the methods and devices that will be used to protect the water supply - provisions for denial or discontinuance of water service to premises with an unprotected cross-connection. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|---|---|
| WELLS <p>3-35. Installations with groundwater wells must meet well abandonment standards (WAC, NR 811.17(2) through (4)).</p> | <p>Determine if the installation has any water system wells.</p> <p>Verify that wells that are permanently abandoned are filled and sealed to prevent it from acting as a channel for contamination or vertical movement of water.</p> <p>Verify that installations with wells that are temporarily removed from service seal the top with a water-tight threaded or welded cap or be filled with clean puddled clay.</p> <p>Verify that wells that are temporarily removed from service for more than 5 yr are permanently abandoned and properly sealed.</p> <p>Verify that a report is submitted to the Department within 30 days after a well has been permanently abandoned or temporarily removed from service.</p> |

Appendix 3-1

Maximum Contaminant Levels For Inorganic Chemicals (WAC, NR 109.10)

| Contaminant | MCL (mg/L) |
|--------------------|-----------------------|
| Arsenic | 0.05 |
| Barium | 1 |
| Cadmium | 0.010 |
| Chromium | 0.05 |
| Fluoride | 4.0 |
| Lead | 0.05 |
| Mercury | 0.002 |
| Nitrate (as N) | 10 |
| Selenium | 0.01 |
| Silver | 0.05 |

Appendix 3-2

Maximum Allowable Levels For Organic Chemicals (Primary Standards)

(NR 109.20)

The following shall be the maximum allowable levels for all community public water supplies:

| Constituent | Level (mg/L) |
|---|---------------------|
| Chlorinated hydrocarbons: Endrin (1,2,3,4,10, 10-hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-1,4-endo-5,8-dimethano naphthalene). | 0.0002 |
| Lindane (1,2,3,4,5,6-hexachlorocyclohexane, gamma isomer). | 0.004 |
| Methoxychlor (1,1,1-Trichloro-2,2-bis (p-methoxphenyl) ethane). | 0.1 |
| Toxaphene Technical chlorinated camphene, 67-69 percent chlorine). | 0.005 |
| Chlorophenoxy: 2,4-D (2,4-Dichlorophenoxy acetic acid) | 0.1 |
| 2,4,5-TP Silver (2,4,5-Tri-chlorophenoxypropionic acid) | 0.01 |
| Total trihalomethanes Chloroform (Trichloromethane) Bromoform (Tribromomethane) Bromodichloromethane Dibromochloromethane | 0.10 |

Appendix 3-3

Maximum Contaminant Levels (MCLs) For Volatile Organic Chemicals (NR 109.24)

| Contaminant | MCL (mg/L) |
|----------------------------|-------------------|
| Benzene | 0.005 |
| Vinyl chloride | 0.002 |
| Carbon tetrachloride | 0.005 |
| 1,2-Dichloroethane | 0.005 |
| para-Dichlorobenzene | 0.075 |
| 1,1-Dichloroethylene | 0.007 |
| 1,1,1-Trichloroethane | 0.20 |
| cis-1,2-Dichloroethylene | 0.07 |
| 1,2-Dichloropropane | 0.005 |
| Ethylbenzene | 0.7 |
| Monochlorobenzene | 0.1 |
| Ortho-Dichlorobenzene | 0.6 |
| Styrene | 0.1 |
| Tetrachloroethylene | 0.005 |
| Toluene | 1 |
| trans-1,2-Dichloroethylene | 0.1 |
| Xylenes | 10 |

Appendix 3-4
Monitoring For Organic Chemicals
(NR 109.26)

| |
|-----------------------------------|
| Bromodichloromethane |
| Bromoform |
| Bromomethane |
| Chlorobenzene |
| Chlorodibromomethane |
| Chloroethane |
| Chloroform |
| Chloromethane |
| o-Chlorotoluene |
| p-Chlorotoluene |
| Dibromomethane |
| m-Dichlorobenzene |
| o-Dichlorobenzene |
| Trans-1,2-Dichloroethylene |
| Cis-1,2-Dichloroethylene |
| Dichloromethane |
| 1,1-Dichloroethane |
| 1,1-Dichloropropene |
| 1,2-Dichloropropane |
| 1,3-Dichloropropane |
| 1,3-Dichloropropene |
| 2,2-Dichloropropane |
| Ethylbenzene |
| Styrene |
| 1,1,2,2-Tetrachloroethane |
| Tetrachloroethylene |
| 1,2,3-Trichloropropane |
| Toluene |
| p-Xylene |
| o-Xylene |
| m-Xylene |
| Ethylene Dibromide (EDB) |
| 1,2-Dibromo-3-Chloropropane(DBCP) |
| 1,1,2-Trichloroethane |
| 1,1,1,2-Tetrachloroethane |
| 1,1,2,2-Tetrachloroethane |

Appendix 3-5

Additional Monitoring For Organic Chemicals (NR 109.26)

| |
|-------------------------|
| Bromochloromethane |
| n-Butylbenzene |
| Dichlorodifluoromethane |
| Fluorotrichloromethane |
| Hexachlorobutadiene |
| Isopropylbenzene |
| p-Isopropyltoluene |
| Naphthalene |
| n-Propylbenzene |
| Sec-Butylbenzene |
| Tert-Butylbenzene |
| 1,2,3-Trichlorobenzene |
| 1,2,4-Trichlorobenzene |
| 1,2,4-Trimethylbenzene |
| 1,3,5-Trimethylbenzene |

Appendix 3-6

Water Samples For Microbiological Quality (NR 109.31)

The minimum number of samples to be collected by a community public water supply system and submitted for examination shall be in accordance with the following:

| Population Served | Minimum Number of Samples | Population Served | Minimum Number of Samples |
|--------------------------|----------------------------------|--------------------------|----------------------------------|
| 25 to 1000 ¹ | 1 | 50,001 to 54,000 | 60 |
| 25 to 1000 ² | 1 | 54,001 to 59,000 | 65 |
| 1001 to 2500 | 2 | 59,001 to 64,000 | 70 |
| 2501 to 3300 | 3 | 64,001 to 70,000 | 75 |
| 3301 to 4100 | 4 | 70,001 to 76,000 | 80 |
| 4101 to 4900 | 6 | 76,001 to 83,000 | 85 |
| 4901 to 5800 | 7 | 83,001 to 90,000 | 90 |
| 5801 to 6700 | 6 | 90,001 to 96,000 | 95 |
| 6701 to 7600 | 7 | 96,001 to 111,000 | 100 |
| 7601 to 8500 | 8 | 111,001 to 130,000 | 110 |
| 8501 to 9400 | 9 | 130,001 to 160,000 | 120 |
| 9401 to 10,300 | 10 | 160,001 to 190,000 | 130 |
| 10,301 to 11,100 | 11 | 190,001 to 220,000 | 140 |
| 11,101 to 12,000 | 12 | 220,001 to 250,000 | 150 |
| 12,001 to 12,900 | 13 | 250,001 to 290,000 | 160 |
| 12,901 to 13,700 | 15 | 290,001 to 320,000 | 170 |
| 13,701 to 14,600 | 16 | 320,001 to 360,000 | 180 |
| 14,601 to 15,500 | 17 | 360,001 to 410,000 | 190 |
| 15,501 to 16,300 | 18 | 410,001 to 450,000 | 200 |
| 16,301 to 17,200 | 19 | 450,001 to 500,000 | 210 |
| 17,201 to 18,100 | 20 | | |
| 18,101 to 18,900 | 22 | | |
| 18,901 to 19,800 | 23 | | |
| 19,801 to 20,700 | 22 | | |
| 20,701 to 21,500 | 24 | | |
| 21,501 to 22,300 | 25 | | |
| 22,301 to 23,200 | 26 | | |
| 23,201 to 24,000 | 27 | | |
| 24,001 to 24,900 | 28 | | |
| 24,900 to 25,000 | 29 | | |
| 25,001 to 28,000 | 30 | | |
| 28,001 to 33,000 | 35 | | |
| 33,001 to 37,000 | 40 | | |
| 37,001 to 41,000 | 45 | | |
| 41,001 to 46,000 | 50 | | |
| 46,001 to 50,000 | 55 | | |

¹ not serving a municipality

² serving a municipality

Appendix 3-7

Secondary Contaminant Levels (NR 109.60)

| Contaminant | Unit | Maximum level |
|-------------------------------|------------------|----------------------|
| Chloride | mg/L | 250.00 |
| Color | Platinum Cobalt | 15.0 |
| Copper | mg/L | 1.0 |
| Corrosivity | - | Noncorrosive |
| Fluoride * | mg/L | 2.0 |
| Foaming Agents | | |
| MBAS (Methylene Blue Active) | | 0.5 |
| Hydrogen Sulfide | | Not detectable |
| Iron | mg/L | 0.3 |
| Manganese | mg/L | 0.05 |
| Odor | Threshold Number | 3.0 |
| Total Residue | | 500 |
| Zinc | mg/L | 5.0 |

| | | | |
|-------------------------------|---|--------------|---------------------|
| INSTALLATION: | COMPLIANCE CATEGORY: SAFE DRINKING WATER ACT (SDWA) Wisconsin Supplement | DATE: | REVIEWER(S): |
| STATUS NA C RMA | REVIEWER COMMENTS: | | |
| | | | |

SECTION 4

RESOURCE CONSERVATION AND RECOVERY ACT,

SUBTITLE C (RCRA-C)

Wisconsin Supplement

SECTION 4

RESOURCE CONSERVATION AND

RECOVERY ACT, SUBTITLE C (RCRA-C)

Wisconsin Supplement

The State of Wisconsin is responsible for regulation of hazardous waste. While Wisconsin has not adopted by reference the Federal hazardous waste regulations, most of the requirements are identical. The list here details the Wisconsin Hazardous Waste Management Requirements and the applicable Federal requirements. See the U.S. ECAS Manual for Department of Defense (DOD), Army, and the Federal requirements.

Wisconsin regulations that are identical to Federal regulations:

Wisconsin Administrative Code (WAC), Department of Natural Resources (NR) 605, *Hazardous Waste Determination*, is identical to 40 CFR 261, Subpart A through Subpart D and Appendices I through X.

WAC NR 620, *Transporter Standards and Licensing Requirements*, is identical to 40 CFR 263 including:

- Identification Number - Subpart A
- Manifest System - Subpart B
- Compliance With the Manifest - Subpart B
- Recordkeeping - Subpart B
- Hazardous Waste Discharges - Subpart C.

WAC NR 625, *Recycling Standards*, is identical to 40 CFR 266 including:

- Hazardous Waste Burned For Energy Recovery - Subpart D
- Used Oil Burned For Energy Recovery - Subpart E
- Waste Lead-Acid Batteries Destined For Recycling - Subpart G.

WAC NR 630, *General Standards for Hazardous Waste Treatment, Storage, and Disposal Facilities (TSDFs)*, is identical to 40 CFR 264 including:

- Security - Subpart B
- General Waste Analysis - Subpart B
- Inspection Requirements - Subpart B
- Personnel Training - Subpart B
- Requirements For Ignitable, Reactive, or Incompatible Waste - Subpart B
- Preparedness and Prevention - Subpart C
- Contingency Plan - Subpart D
- Manifest System, Recordkeeping, and Reporting - Subpart E.

WAC NR 635, *Groundwater and Leachate Monitoring Standards and Corrective Action Requirements*, is identical to 40 CFR 264 including:

- Groundwater Protection Standard - Subpart F
- Hazardous Constituents - Subpart F

- *Concentration Limits* - Subpart F
- *General Groundwater Monitoring Requirements* - Subpart F
- *Detection Monitoring Program* - Subpart F
- *Compliance Monitoring Program* - Subpart F
- *Corrective Action* - Subpart F.

WAC NR 640, Container Standards, is identical to 40 CFR 264 Subpart I.

WAC NR 645, Tank System Standards, is identical to 40 CFR 264 Subpart J.

WAC NR 655, Waste Pile Standards, is identical to 40 CFR 264 Subpart L.

WAC NR 660, Standards for Landfills and Surface Impoundments, is identical to 40 CFR 264 Subparts N (*Landfills*) and K (*Surface Impoundments*R).

WAC NR 665, Incinerator Standards, is identical to 40 CFR 264 Subpart O.

WAC NR 670, Miscellaneous Unit Standards, is identical to 40 CFR 264 Subpart X.

WAC NR 675, Land Disposal Restrictions, is identical to 40 CFR 268 Subpart C through Subpart E including appendices.

WAC NR 685, Closure, Long-Term Care, and Financial Responsibility, is identical to 40 CFR 264 Subpart G.

Definitions

These definitions were obtained from the WAC, Department of Natural Resources, *Hazardous Waste Management*, Chapter NR 600. This includes the terms that differ from the definitions found in the Federal Regulations.

- **Department** - the Department of Natural Resources of the State of Wisconsin.
- **Existing Hazardous Waste Management Facility** - a facility that was in operation or for which construction had commenced on or before 19 November 1980.
- **Existing Tank System** - a tank system or tank system component that is used for the storage or treatment of hazardous waste and that is in operation, or for which installation has commenced, on or prior to 1 March 1991.
- **New Tank System** - a tank system or tank system component that is used for the storage or treatment of hazardous waste for which installation has commenced after 1 March 1991.
- **TSDF** - treatment, storage, and disposal facility.

RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE C (RCRA-C)

GUIDANCE FOR WISCONSIN CHECKLIST USERS

| Applicability: | Refer to Checklist Items: |
|-------------------------------------|--------------------------------------|
| Reporting Requirements | 4-1 |
| Satellite Accumulation Areas | 4-2 |
| Small Quantity Generators | 4-3 and 4-4 |
| TSDFs | 4-5 through 4-8 |

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND
RECOVERY ACT - SUBTITLE C (RCRA-C)
Wisconsin Supplement

| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| REPORTING REQUIREMENTS <p>4-1. Installations that generate hazardous waste must file an annual report (WAC NR 610.06(e) and 630.40).</p> | <p>Verify that installations that qualify as small quantity generators or generators submit an annual report to the Department by 1 March of each year.</p> <p>(NOTE: Very small generators, those that generate less than 100 kg of hazardous waste in a calendar month, are exempt from reporting requirements.)</p> |
| SATELLITE ACCUMULATION AREAS <p>4-2. Small quantity generators and generators must meet specific requirements for hazardous waste satellite accumulation areas (WAC NR 610.08(2) and 615.05 (3)(c)).</p> | <p>Verify that no more than 55 gal of hazardous waste or 1 qt of acutely hazardous waste is accumulated in containers at or near the point of generation.</p> <p>Verify that the following requirements are met:</p> <ul style="list-style-type: none"> - an individual is designated to be in charge of the area - all containers are leak proof and in good condition - containers are kept closed when not in use - all containers are marked HAZARDOUS WASTE - full containers are removed immediately and managed as hazardous waste. <p>(NOTE: Installations that qualify as generators have 3-days to remove the container and must mark the container with the date the excess amount began accumulating. The accumulated amounts are not counted against accumulation limits until they are moved from the satellite accumulation area.)</p> |

**COMPLIANCE CATEGORY:
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>SMALL QUANTITY GENERATORS</p> <p>4-3. Small quantity generators that accumulate hazardous waste onsite must meet specific requirements for containers and accumulation time (WAC NR 610.08(1)(l)).</p> | <p>Determine that accumulation time does not exceed 180 days. (NOTE: This period is extended to 270 days if the waste must be transported more than 200 mi to a TSDF.)</p> <p>Determine that applicable tanks and containers are used and inspected regularly.</p> <p>Verify that the date the current period of accumulation began is clearly marked and visible for inspection on all containers and tanks.</p> <p>Verify that all manifest, packaging, labeling, and shipping requirements applicable to generators of hazardous waste are met.</p> |
| <p>TSDFs</p> <p>4-4. Small quantity generators must have an emergency coordinator and emergency response planning (WAC NR 610.08(2)(u)).</p> <p>4-5. Installations that construct, operate, maintain a hazardous waste TSDF must have an operating license (WAC NR 680.32).</p> <p>4-6. Installations that operate a hazardous waste TSDF must submit an annual report (WAC NR 630.40).</p> | <p>Verify that at all times there is at least one employee responsible for coordinating all emergency response measures either on the premises or able to reach the facility in a short time.</p> <p>Verify that emergency procedure information is posted next to the telephone.</p> <p>Verify that personnel are familiar with emergency response measures.</p> <p>Determine if the installation constructs, operates, or maintains a hazardous waste TSDF.</p> <p>Verify that the installation operates the hazardous waste TSDF in accordance with a valid license, interim license, variance or waiver, or is exempt from licensing requirements.</p> <p>Verify that the installation submits an annual report to the Department by 1 March of each year.</p> |

COMPLIANCE CATEGORY:
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RECOVERY ACT - SUBTITLE C (RCRA-C)
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>4-7. Installations that operate a hazardous waste TSDF must meet specific location requirements (WAC NR 630.18).</p> | <p>Verify that the following location standards are met:</p> <ul style="list-style-type: none"> - a hazardous waste facility is not located in a wetland - a hazardous waste facility is not located in a habitat determined to be critical to the continued existence of any endangered species - active portions of the facility are located up to 61 m (200 ft) away from the property line of the facility - new facilities do not conduct treatment, storage, and disposal of hazardous waste within 61 m (200 ft) of a fault that has had displacement in Holocene time. |
| <p>4-8. Installations that operate a hazardous waste TSDF must meet specific facility standards (WAC NR 630.20).</p> | <p>Verify that the following standards are met:</p> <ul style="list-style-type: none"> - open burning of hazardous waste is not permitted - point source discharges into municipal sewer systems meet applicable pretreatment standards and have the approval of the municipal treatment system authority - surface run-on and runoff is diverted from all active portions of the facility - dikes, or equivalent structures are designed, constructed, and maintained to divert run-on from a 24-h, 25-yr storm - all surface water runoff from active portions of the facility is collected and confined to a point source prior to discharge or treatment. |

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| INSTALLATION: | COMPLIANCE CATEGORY: RESOURCE CONSERVATION AND RECOVERY ACT SUBTITLE C (RCRA-C) Wisconsin Supplement | DATE: | REVIEWER(S): |
| STATUS NA C RMA | REVIEWER COMMENTS: | | |
| | | | |

SECTION 5

RESOURCE CONSERVATION AND RECOVERY ACT,

SUBTITLE D (RCRA-D)

Wisconsin Supplement

SECTION 5

RESOURCE CONSERVATION AND

RECOVERY ACT, SUBTITLE D (RCRA-D)

Wisconsin Supplement

Definitions

These definitions were obtained from the Wisconsin Administrative Code (WAC), Rules of the Department of Natural Resources (NR), *Solid and Hazardous Waste Management*, Chapter NR 500.03.

- **Air Curtain Destructor** - a solid waste facility that combines a fixed wall, open pit and mechanical air supply which uses an excess of oxygen and turbulence to accomplish the smokeless combustion of clean wood wastes and similar combustible materials.
- **Asbestos** - any material which contains fibrous chrysotile, crocidolite, amosite minerals or the fibrous varieties of anthophyllite, tremolite, and actinolite.
- **ASTM** - the American Society for Testing and Materials.
- **Beneficial Use or Reuse** - the recycling or use of solid waste in a productive use.
- **Bird Hazard** - an increase in the likelihood of a bird and aircraft collision that may cause damage to the aircraft or injury to its occupants.
- **Building Materials** - noncombustible construction material including brick, concrete, and drywall.
- **Clay** - all soil particles less than 0.005 mm.
- **Closure** - those actions to be taken by the owner or operator of a solid waste facility to prepare the facility for long-term care and to make it suitable for other uses.
- **Closure Period** - the 90-day period after the facility ceases to accept waste, unless otherwise specified in the approved plan of operation.
- **Closure Plan** - a written report and engineering plans detailing those actions that will be taken by the owner or operator to effect proper closure of a solid waste facility.
- **Collection and Transportation Service** - a solid waste facility which utilizes containers, vehicles, or other means for the collection and transportation of solid waste.
- **Construct** - to engage in facility construction for a new or expanded solid waste facility including but not limited to the erection or building of new structures, replacement, expansion, remodeling, alteration or extension of existing structures, the acquisition and installation of equipment associated with the new, expanded, or remodeled structures, and clearing, grading, or liner construction.
- **Containerized Storage Facility** - a storage facility designed and operated to use containers for the storage and containment of solid waste.

- **Critical Habitat Areas** - any habitat determined by the Department to be critical to the continued existence of any endangered or threatened species.
- **Demolition and Construction Material** - solid waste resulting from the construction, demolition, or razing of buildings, roads, and other structures. Demolition and construction material typically consists of concrete, bricks, bituminous concrete, wood, glass, masonry, roofing, siding, and plaster, alone or in combinations. It does not include asbestos, waste paints, solvents, sealers, adhesives, or similar materials.
- **Department** - the Department of Natural Resources
- **Design Capacity** - the total volume in-place in cubic yards of solid waste disposed of in a land disposal facility together with daily and intermediate cover utilized in the facility, but not including liner material, drainage blanket, final cover, or topsoil.
- **Detrimental Effect on Ground or Surface Water** - having a significant damaging impact on ground or surface water quality for any present or future consumptive or nonconsumptive uses.
- **Dredge Material** - any solid waste removed from the bed of any surface water.
- **Establish** - to bring a new or expanded solid waste facility into existence.
- **Expand an Existing Landfill** - to construct a solid waste disposal facility or dispose of solid waste on land not previously licensed or to dispose of an additional volume of waste beyond the volume previously approved by the Department. The term also includes the disposal of approved volumes of solid waste on existing licensed land if done in a manner not in accordance with a Department plan approval or in a manner significantly different from past operations unless the Department approves the proposed changes in writing.
- **Facility** - a solid waste facility.
- **Fill Area** - the area proposed to receive or which is receiving direct application of solid waste.
- **Final Cover** - cover material that is applied upon closure of a landfill.
- **Floodplain** - the land which has been or may be hereafter covered by flood water during the regional flood and includes the floodway and the flood fringe.
- **Food Chain Crops** - tobacco and crops grown for human consumption, and pasture, forage, and feed grain for animals whose products are consumed by humans.
- **Free Liquids** - liquids which readily separate from the solid portion of a waste under the ambient temperature and pressure. Free liquids should be determined using the paint filter test as defined in a U.S. Environmental Protection Agency (USEPA) document entitled: *Update II to SW-846*.
- **Groundwater** - any waters of the state, occurring in a saturated subsurface geological formation of rock or soil.
- **Incinerator** - a processing facility designed and operated for controlled burning of solid wastes primarily to achieve volume and weight reduction or to change waste characteristics. Facilities which use solid waste as a supplemental fuel where less than 30 percent of the heat input to the facility is derived from such supplemental fuel are not classified as incinerators under this chapter.

- *Industrial Waste* - any process waste which is the direct or indirect result of the manufacturing of a product or the performance of a service such as drycleaners or paint shops.
- *Infectious Waste* - solid waste which contains pathogens with sufficient virulence and quantity so that exposure to the waste by a susceptible host could result in an infectious disease.
- *Land Disposal Facility* - a solid waste facility where solid waste is placed in a landspreading facility, a landfill, or surface impoundment facility for disposal purposes.
- *Landfill* - a land disposal facility, not classified as a landspreading facility or surface impoundment facility, where solid waste is disposed on land by utilizing the principles of engineering to confine the solid waste to the smallest practical area, to reduce it to the smallest practical volume, and to cover it with a layer of earth or other approved material as required.
- *Landspreading Facility* - a land disposal facility where solid waste is discharged, deposited, placed or injected in thin layers onto the land surface of the facility, or is incorporated into the top several feet of the surface soil, for agricultural, silvicultural or waste disposal purposes.
- *Leachate* - water or other liquid that has been contaminated by dissolved or suspended materials due to contact with solid waste or with gases generated by solid waste.
- *Leachate Collection and Removal System* - a system capable of collecting and removing leachate or other liquids from a solid waste facility.
- *Leachate Monitoring System* - a system used to monitor the elevation, quantity, or quality of leachate and other liquids generated within a solid waste facility.
- *Limits of Filling* - the outermost limit at which waste from a facility has been disposed of, or approved or proposed for disposal.
- *Liner* - a constructed, continuous layer of natural or artificial materials placed beneath and on the sides of a surface impoundment, landfill, or landfill cell, which restricts the downward or lateral movement of leachate.
- *Monitoring* - all procedures used to systematically inspect and collect data on the performance of a facility relating to leachate and gas production or the effect on the quality of the air, groundwater, surface water, unsaturated zone, or soils.
- *Municipal Solid Waste* - household waste or solid waste from commercial or industrial sources that does not contain hazardous waste and does not contain any process waste which is the direct or indirect result of the manufacturing of a product or the performance of a service such as drycleaners or paint shops. Municipal solid waste does not include waste wood, papermill sludge, sewage sludge, tires, or industrial process wastes.
- *Municipal Solid Waste Combustor* - any solid waste treatment facility that is used to burn municipal solid waste or products derived from municipal solid waste, alone or in conjunction with other materials.
- *Noncombustible Materials* - solid waste which will not support combustion in the ambient atmosphere.
- *Noncontainerized Storage Facility* - a storage facility which is not a containerized storage facility.

- **One-time Disposal** - the disposal of no more than 10,000 yd³ of approved types of agricultural or demolition solid waste on a one-time basis over a project life of not more than 6 mo. Examples are the disposal of concrete, brick, stone, asphalt, wood, trees, logs, brush, and material from demolished buildings.
- **Plan of Operation** - a report submitted for a solid waste facility that describes its location, design, construction, documentation, monitoring, sanitation, operation, maintenance, closing, and long-term care.
- **Processing Facility** - a solid waste facility at which solid waste is baled, shredded, pulverized, composted, classified, separated, combusted, or otherwise treated or altered by some means to facilitate further transfer, processing, utilization, or disposal. Processing facilities do not include operations conducted by scrap metal, paper, fiber, or plastic processors which are excluded from the definition of solid waste facilities.
- **Putrescible Waste** - solid waste which contains organic matter capable of being decomposed by microorganism and of such a character and proportion as to be capable of supporting a vector population or attracting or providing food for birds.
- **Recycling Facility** - a facility where waste is recycled and may include a facility where waste has been generated.
- **Residue Produced by Burning Municipal Solid Waste** - the residue produced in a municipal solid waste combustor designed and operated for controlled burning of solid wastes primarily to achieve volume and weight reduction or to change waste characteristics. This includes facilities such as boilers which also capture energy in the form of steam, electricity, heat, gas, oil, or char from the burning of waste. Residue produced by burning municipal solid waste includes, but is not limited to, slag, ash, flyash, reacted and unreacted scrubber lime, and soot. Residue produced by burning municipal solid waste does not include bypass waste which is rejected prior to burning.
- **Runoff** - any rainwater, leachate or other liquid that drains over land, from any part of a solid waste facility.
- **Run-on** - any rainwater, leachate, or other liquid that drains over land, from any part of a solid waste facility.
- **Sludge** - any solid, semisolid or liquid waste generated from a municipal, commercial or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility..
- **Small Demolition Facility** - a landfill with a design capacity of less than 50,000 yd³ and used for the disposal of only demolition wastes.
- **Soil** - material that has been physically and chemically derived from the bedrock by nature.
- **Storage Facility** - a solid waste facility for the storage of solid waste, on a temporary basis in such a manner as not to constitute ultimate disposal of solid waste.
- **Tank** - a stationary device not including manholes, designed to contain an accumulation of leachate or other waste which is constructed primarily of nonearthen materials, such as wood, concrete, steel, or plastic, which provide structural support.
- **10-Year, 24-Hour Storm** - a storm of 24-h duration with a probable recurrence interval of once in 10 yr.

- *Topsoil* - natural loam, sandy loam, silt loam, silty clay loam, or clay loam humus-bearing soils or other material that will easily produce and sustain dense growths of vegetation capable of preventing wind and water erosion of the material itself and of other materials beneath.
- *Transfer Facility* - a solid waste facility at which transferring of solid waste from one vehicle or container to another, generally of larger capacity, occurs prior to transporting to the point of processing or disposal.
- *Ultra Low-Level Radioactive Waste* - a waste generated at a wastewater or water treatment facility treating groundwater containing radium.
- *Unsaturated Zone* - the zone between the land surface and the water table in which the pore spaces contain water at less than atmospheric pressure, as well as air and other gases.
- *Water Table* - the upper surface of the saturated zone where the hydrostatic pressure is equal to atmospheric pressure.
- *Well* - any drillhole or other excavation or opening constructed for the purpose of obtaining or monitoring groundwater.
- *Wetlands* - those areas where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation, and which have soils indicative of wet conditions.
- *White Goods* - large and medium sized metal appliances including stoves and refrigerators.
- *WPDES Permit* - a Wisconsin pollution discharge elimination system permit issued by the Department.

RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE D (RCRA-D)

GUIDANCE FOR WISCONSIN CHECKLIST USERS

| Applicability: | Refer to Checklist Items: |
|--|--------------------------------------|
| All Installations | 5-1 |
| Solid Waste Facilities | 5-2 and 5-3 |
| Storage Facilities | 5-4 through 5-8 |
| Collection and Transportation Services | 5-9 through 5-12 |
| Transfer Facilities | 5-13 through 5-22 |
| Solid Waste Processing Facilities | 5-23 through 5-33 |
| Incinerators | 5-34 through 5-41 |
| Air Curtain Destuctors | 5-42 through 5-50 |
| Woodburning Facilities | 5-51 through 5-57 |
| One-Time Disposal | 5-58 through 5-60 |
| Small Demolition Waste Landfills | 5-61 through 5-63 |
| Municipal Solid Waste Combustors | 5-64 through 5-73 |
| Landfills | 5-74 through 5-102 |
| Landspreading of Solid Waste | 5-103 through 5-107 |
| Waste Separation and Recycling Collection Facilities | 5-108 through 5-111 |
| Prohibited Disposal and Incineration | 5-112 |

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT - SUBTITLE D (RCRA-D)
Wisconsin Supplement

| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| ALL INSTALLATIONS <p>5-1. Installations must obtain a license in order to maintain or operate a solid waste facility (WAC NR 500.06).</p> | <p>Determine if the installation operates or maintains a solid waste facility.</p> <p>Determine if the installation meets any of the exemptions from these rules found in Appendix 5-1.</p> <p>Verify that the installation has obtained a solid waste license and operates under the conditions of the license.</p> |
| SOLID WASTE FACILITIES <p>5-2. Installations that operate a solid waste storage, transportation, transfer, incinerator, air curtain destructor, processing, wood burning, one time disposal, small demolition facility, municipal solid waste combustor, or landfill must meet location standards (WAC NR 502.04(2)).</p> | <p>(NOTE: Collection and transportation services are exempt from this requirement.)</p> <p>Determine if the installation operates a solid waste storage, transportation, transfer, incinerator, air curtain destructor, processing, wood burning, one time disposal, small demolition facility, municipal solid waste combustor, or landfill.</p> <p>Verify that the facility is not located in any of the following areas:</p> <ul style="list-style-type: none"> - within 1000 ft of any navigable lake, pond, or flowage - within 300 ft of any navigable river or stream - within a floodplain - within 1000 ft of the nearest edge of the right-of-way of any state highway, interstate or Federal aid primary highway, or the boundary of any public park, unless the facility is screened by natural objects, plantings, fences, or other appropriate means so that it is not visible from the highway or park - within 1200 ft of any public or private water supply well - within 10,000 ft of any airport runway used or planned to be used by turbojet aircraft or within 5000 ft of any airport runway used only by piston type aircraft or within other areas where a substantial bird hazard to aircraft would be created. <p>(NOTE: The airport requirement only applies to facilities used for handling putrescible waste.)</p> |

COMPLIANCE CATEGORY:
RESOURCE CONSERVATION AND RECOVERY ACT - SUBTITLE D (RCRA-D)
Wisconsin Supplement

| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>5-3. Installations that operate a solid waste storage, transportation, transfer, incinerator, air curtain destructor, processing, wood burning, one time disposal, small demolition facility, municipal solid waste combustor, or landfill must meet performance standards (WAC NR 502.04(3)).</p> | <p>Verify that a facility is not established, constructed, operated, or maintained within an area where there is a reasonable probability that the facility will cause the following:</p> <ul style="list-style-type: none"> - a significant adverse impact on wetlands - a significant adverse impact on critical habitat areas - a detrimental effect on any surface water - a detrimental effect on groundwater quality - the migration and concentration of explosive gases in any facility structures, excluding any leachate collection system or gas control or recovery system components, or in the soils or air at or beyond the facility property boundary in excess of 25 percent of the lower explosive limit for such gases at any time - the emission of any hazardous air contaminant exceeding departmental limitations for those substances. |
| <p>STORAGE FACILITIES</p> <p>5-4. Installations must obtain a license in order to operate or maintain a solid waste storage facility (WAC NR 502.05 (1) and (2)).</p> | <p>Determine if the installation meets any of the following exemptions from the licensing and all storage facility requirements:</p> <ul style="list-style-type: none"> - garbage cans for household wastes located on the property where the waste is generated - containerized storage facilities such as lugger boxes and rolloff containers for solid waste serving apartments, commercial establishments, business establishments, and industries that are located on the premises served - pit silos used for the storage of by-products from fruit, vegetable, or grain processing operations where such by-products are to be used for animal feed - facilities for high volume industrial waste or wood residue where the waste is stored at the point of generation for less than 72 h prior to being transported for disposal or beneficial reuse and the facility is operated and maintained in an environmentally sound and nuisance free manner - onsite storage at a municipal solid waste combustor. <p>Verify that the installation has obtained a solid waste storage facility license and operates under the conditions of the license.</p> |
| <p>5-5. The storage of residue produced by burning municipal solid waste must be conducted according to specific requirements (WAC NR 502.05(13)).</p> | <p>Determine if the installation stores residue produced by burning municipal solid waste.</p> <p>Verify that the installation is operating in accordance with an approved plan of operation.</p> <p>Verify that the residue is wetted at all times during storage to prevent dust emissions.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>5-5. (continued)</p> <p>5-6. Containerized storage facilities must meet specific operational requirements (WAC NR 502.05(3)).</p> | <p>Verify that provisions are made to prevent the release of residue into the air in the residue handling areas.</p> <p>Verify that access to the temporary storage area is restricted to authorized personnel only.</p> <p>Verify that fencing or other means of access control acceptable to the Department is maintained around the facility.</p> <p>Verify that the storage area has an impervious surface on which the residue is stored and a collection system for any liquid coming into contact with the residue.</p> <p>Verify that all liquid that comes into contact with the residue which is not used as makeup water in the quench tank is treated at a wastewater treatment plant approved by the Department.</p> <p>(NOTE: All waste should be stored in containers unless its volume prevents practical containerized storage, in which case it must meet the requirements for noncontainerized storage.)</p> <p>Determine if the installation operates a containerized storage facility.</p> <p>Verify that storage containers are durable, rust resistant, nonabsorbent, leak-proof, easy to clean, and effectively contain the stored waste.</p> <p>Verify that containers storing garbage or similar putrescible wastes have close-fitting, fly-tight covers and are constructed of light-weight durable material.</p> <p>Verify that covers and containers are maintained in good condition.</p> <p>Verify that containers handling municipal solid waste are removed and emptied at least once per week, or more often if conditions warrant.</p> <p>Verify that containers handling nonputrescible industrial waste are removed and emptied as necessary, but at least once every 90 days.</p> <p>Verify that all-weather access is provided and maintained.</p> <p>Verify that flies, rodents, and other vectors are controlled and that periodic cleanup and maintenance of the storage containers and surrounding area is conducted.</p> <p>Verify that objects too large for the containers are stored in a nuisance free manner.</p> <p>Verify that no solid waste is disposed of at the facility.</p> <p>Verify that there is no burning of solid waste at the facility.</p> <p>Verify that the facility is operated and maintained in a sanitary, nuisance-free manner.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>5-7. Noncontainerized storage facilities must meet specific operational requirements (WAC NR 502.05(9) and (10)).</p> | <p>Determine if the installation operates a noncontainerized storage facility.</p> <p>Determine if the facility meets the following criteria which will exempt it from the licensing and any plan submittal requirements:</p> <ul style="list-style-type: none"> - the solid waste does not include residue produced by the burning of municipal solid waste or putrescible waste such as garbage and municipal refuse - the waste is free of noxious odors and not readily transported by wind or water unless it is stored to prevent such transport - the facility exists less than 6 mo from the time of initial storage to the removal of all waste - the volume of waste stored at the facility does not exceed 2500 yd³ at any time during the 6 mo period - the total volume of waste stored at the facility during the allowable 6 mo period does not exceed 5000 yd³. <p>Verify that the facility is operated in conformance with the approved plan of operation.</p> <p>Verify that all-weather access is provided and maintained.</p> <p>Verify that flies, rodents, and other vectors are controlled.</p> <p>Verify that periodic maintenance or cleanup of the facility is conducted.</p> <p>Verify that gates, fencing, and an attendant are provided as specified by the Department.</p> <p>Verify that solid waste is disposed of at a licensed facility approved by the Department.</p> <p>Verify that solid waste is not burned at the facility.</p> <p>Verify that the facility is operated and maintained in a sanitary, nuisance-free manner.</p> <p>Verify that adequate drainage is maintained on and around the facility.</p> <p>Verify that monitoring is conducted as specified by the Department.</p> |
| <p>5-8. The closure of a noncontainerized storage facility must be conducted according to specific closure requirements (WAC NR 502.05(11)).</p> | <p>Verify that the facility is closed in accordance with an approved closure plan.</p> <p>Verify that the Department is notified at least 60 days prior to the closing of the facility.</p> <p>Verify that all solid waste is removed from the facility in accordance with the approved plan of operation.</p> <p>Verify that the surface of the facility is restored in conformity with the approved plan of operation, or restored to its original condition to the extent practicable.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>COLLECTION AND TRANSPORTATION SERVICES</p> <p>5-9. Installations must obtain a license prior to operating or maintaining a collection or transportation service (WAC NR 502.06(1) and (2)).</p> <p>5-10. Solid waste collection and transportation services must meet specific operational standards (WAC NR 502.06(6) and (7)).</p> | <p>Determine if the installation operates or maintains a collection or transportation service.</p> <p>Determine if the installation meets any of the following exemptions from the license requirement and all requirements of this section:</p> <ul style="list-style-type: none"> - services for the collection or transportation of only salvageable material, gravel pit spoils, quarry materials, or earth materials - services for the collection and transportation of only ordinary solid waste from a single household or ordinary household solid waste amounting to less than 20 tons/yr - services for the collection and transportation of sludge for municipal wastewater or water supply treatment plants - services for septic tanks, soil absorption fields, holding tanks, grease traps, and privies - governmental services consisting solely of vehicles used to collect and transport roadside litter from town, village, city, county, state, and Federal highway right-of-way - services for the collection and transportation of dredge material if specifically regulated by a permit or contract - services for the collection and transportation of wastes generated by an industrial company which do not travel on public roads and which utilize vehicles owned by the company - services for the collection and transportation of whey or waste material from fruit or vegetable processing operations. <p>Verify that the installation has obtained a license and operates under the conditions of the license.</p> <p>Verify that all vehicles have Wisconsin Department of Natural Resources (WDNR) followed by the license number lettered on the driver's door in letters that are at least 2 in. high.</p> <p>Verify that solid waste is transported to facilities that are licensed or approved by the Department, or to facilities that are exempt from regulation from the Department.</p> <p>Verify that vehicles or containers used for the collection and transportation of solid waste are durable, easy to clean, and leak-proof, if necessary, considering the type of waste and its moisture content.</p> <p>Verify that all vehicles and containers are cleaned as frequently as necessary to prevent nuisances or insect breeding and are maintained in good repair.</p> <p>Verify that vehicles or containers used for the collection and transportation of solid waste are loaded and moved so that the contents do not fall, spill, or leak, and that covers are used to prevent littering and spillage.</p> |

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| 5-10. (continued) | <p>Verify that if any spillage occurs the spilled materials are returned to the vehicle immediately and the spill area is cleaned.</p> <p>Verify that if any hazardous substances are spilled the Department is notified, the spill material is collected, and the environment is restored.</p> <p>Verify that the owner or operator notifies the Department in writing of any expansion or termination of a service or of any change in disposal facilities used at least 30 days prior to the effective date of such action.</p> |
| 5-11. The transportation of asbestos waste must meet specific requirements (WAC NR 502.06 (3)). | <p>Verify that all services collecting and transporting asbestos meet the minimum requirements of the applicable air management rules.</p> |
| 5-12. The transportation of residue produced by burning municipal solid waste must meet specific requirements (WAC NR 502.06(4)(a) and (5)). | <p>Verify that written approval of a plan of operation has been obtained prior to operating a facility for the collection and transportation of residue produced by burning municipal solid waste.</p> <p>Verify that the residue contains sufficient moisture during transportation to prevent dust emissions and that provisions are made to prevent the release of residue into the air in residue handling areas.</p> <p>Verify that all free liquids are drained prior to transportation of the residue.</p> <p>Verify that all vehicles that transport the residue are designed and operated as necessary to prevent leakage during operation.</p> <p>Verify that access to the residue transport vehicles is restricted to authorized personnel only.</p> <p>Verify that all transportation vehicles are covered to prevent spillage and wind blown residue during transport.</p> |
| TRANSFER FACILITIES | <p>(NOTE: Transfer facilities at which waste from individual users or from hand unloaded vehicles not exceeding 1 ton in capacity are exempt from the licensing requirement and the plan approval requirements.)</p> <p>Determine if the installation operates a transfer facility.</p> <p>Verify that the installation has obtained a license and operates under the conditions of the license.</p> |
| 5-13. Installations that operate transfer facilities must have a license (WAC NR 502.07(1) and (2)). | |

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| <p>5-14. Transfer facilities that are exempt from the licensing and plan approval requirements must still meet minimum operational requirements (WAC NR 502.07(2)).</p> | <p>Determine if the facility has been exempted from the licensing and plan approval requirements.</p> <p>Verify that containers are leak-proof and manufactured for nondegradable material such as metal, plastic, or concrete.</p> <p>Verify that where mechanical equipment is a part of the operation, access is limited to those times that an attendant is on duty.</p> <p>Verify that containers are removed or emptied at least once per week and more frequently if conditions warrant.</p> <p>Verify that the transfer station and adjacent area is kept clean and free of litter.</p> <p>Verify that there is no burning of solid waste.</p> <p>Verify that flies, rodents, and other insects or vermin are controlled.</p> <p>Verify that an all-weather access road and parking area is provided and maintained.</p> <p>Verify that if recycling facilities are provided, they are clearly labeled and maintained in a nuisance-free manner.</p> |
| <p>5-15. Nonexempt transfer stations must meet general operating requirements (WAC NR 502.07(7)(a), (h), (l), and (r)).</p> | <p>Verify that the facility is operated in conformance with an approved plan of operation.</p> <p>Verify that there is no burning of solid waste.</p> <p>Verify that a sign is posted at the entrance to the facility, which indicates the name, license number, the hours of operation, waste types accepted, necessary safety precautions, and any other pertinent information specified by the Department.</p> <p>Verify that solid waste is confined to the unloading, loading, and handling areas.</p> <p>Verify that the unloading of solid waste only takes place within the structure and only in approved designated areas.</p> <p>Verify that an approved alternative method of waste processing or disposal is provided in the event that the transfer facility is rendered inoperable.</p> |

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| 5-16. Nonexempt transfer stations must meet specific operating requirements concerning the control of nuisance conditions (WAC NR 502.07(7)(b), (k), (i), (o), and (p)). | <p>Verify that a building, roofed and enclosed on three sides or otherwise enclosed to satisfactorily control dust, papers, and other waste materials, is provided.</p> <p>Verify that dust and odors generated by the unloading of solid waste and the operation of the transfer facility are controlled at all times.</p> <p>Verify that means are provided to control flies, rodents, and other insects or vermin.</p> <p>Verify that the transfer facility and adjacent area are kept clean and free of litter.</p> <p>Verify that provisions are made for adequate maintenance of the transfer facility after each day of operation.</p> |
| 5-17. Nonexempt transfer stations must meet specific operating requirements concerning access and supervision (WAC NR 502.07(7)(d) and (e)). | <p>Verify that the facility is operated under the direct supervision of responsible individuals who are thoroughly familiar with the requirements and the operational procedures of the transfer facility.</p> <p>Verify that access is restricted except when an attendant is on duty.</p> |
| 5-18. Nonexempt transfer stations must maintain emergency equipment (WAC NR 502.07(7)(n) and (q)). | <p>Verify that a means of communication is provided for emergency purposes.</p> <p>Verify that equipment is provided to control accidental fires and that arrangements are made with the local fire protection agency to provide immediate services when needed.</p> |
| 5-19. Nonexempt transfer stations must meet specific requirements concerning the storage of solid waste (WAC NR 502.07(7)(f)). | <p>Verify that solid waste is not stored on the premises for a period greater than 24 h unless the transfer station is in conformance with all storage facility requirements or unless the waste is contained in vehicles used by a licensed collection and transportation service.</p> |
| 5-20. Nonexempt transfer stations must meet specific requirements concerning restricted wastes (WAC NR 502.07(7)(j) and (m)). | <p>Verify that sewage solids, sludge or wastes containing free liquids are not accepted unless special handling plans for these wastes have been submitted to the Department and approved in writing.</p> <p>Verify that that asbestos, infectious, or hazardous wastes are not accepted under any circumstances.</p> <p>Verify that solid waste which is burning or is at a temperature likely to cause fire or is flammable or explosive is not accepted.</p> |

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| <p>5-21. Nonexempt transfer stations must screen waste handling operations if located within 500 ft of any residence (WAC NR 502.07(7)(c)).</p> | <p>(NOTE: Transfer stations are exempt from this requirement if a signed waiver has been received from all residents located within 500 ft of the facility.)</p> <p>Verify that screening of waste handling operations is provided.</p> |
| <p>5-22. Closing transfer stations must meet specific requirements (WAC NR 502.07(8)).</p> | <p>Verify that the Department and all users of the facility are notified in writing at least 60 days prior to closure.</p> <p>Verify that a sign is posted in a prominent location notifying users of the date the facility will close.</p> <p>Verify that access is restricted through the use of a fence, gate, plantings, or other appropriate means when the facility is closed.</p> |
| <p>SOLID WASTE PROCESSING FACILITIES</p> <p>5-23. Installations operating solid waste processing facilities must obtain a license (WAC NR 502.08(1) and (2)).</p> | <p>Determine if the installation operates a solid waste processing facility.</p> <p>Determine if the solid waste processing facility meets any of the following exemptions from the licensing and all other requirements of this section:</p> <ul style="list-style-type: none"> - composting facilities used for processing solid waste from a single family or household, a member of which is the owner, occupant, or lessee of the property used for the solid waste processing operation and the facility is operated in a nuisance free and environmentally sound manner - composting facilities used for processing grasses, leaves, yard and food waste which do not exceed 50 yd³/yr provided the facility is operated in a nuisance free and environmentally sound manner - facilities for the processing of scrap iron, steel, or nonferrous metal using large machines to produce a principal product of scrap metal for sale or use for remelting purposes and facilities which use large machines to sort, grade, compact, bale, or process clean wastepaper, textiles, clean wood, glass, rubber, demolition debris, pavement, or plastics, not mixed with other solid waste, for sale or use for recycling purposes - private alcohol fuel production systems provided the waste product is stored in environmentally sound storage facility and disposed of using an environmentally safe landspreading technique and the disposal is confined to the property of the owner - facilities utilizing fly ash that conforms to ASTM-C618 Class F and C specifications provided the testing, reporting, storage and other requirements specified by the Department are complied with |

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| 5-23. (continued) | <ul style="list-style-type: none"> - facilities where solid wastes are processed for reuse or recycling by being incorporated into a structural material such as concrete or asphalt or converted into a consumer product which is used as a raw material in a commercial or industrial process. <p>Verify that the installation has obtained a license and operates the facility in accordance with all conditions of the license.</p> |
| 5-24. Installations with composting operations that exceed 50 yd³/yr but do not exceed 20,000 yd³ must have written approval from the Department (WAC NR 502.08(4)). | <p>Determine if the installation operates a composting facility for grass clippings, leaves, chipped wood, and yard waste which exceeds 50 yd³/yr but does not exceed 20,000 yd³.</p> <p>Verify that the installation has obtained written approval from the Department to operate the facility.</p> |
| 5-25. New solid waste processing facilities must meet specific design requirements (WAC NR 502.08(8)). | <p>Verify that screening is provided for any processing facility located within one quarter mile of any residence.</p> <p>Verify that dust within the facility is controlled.</p> <p>Verify that access to the processing facility is limited by means of fencing, natural barriers, or other methods.</p> <p>Verify that access roads utilized are of all-weather construction.</p> <p>Verify that all wastewater resulting from the process is discharged into a sanitary sewer or other system approved by the Department.</p> <p>Verify that thermal processing facilities are designed to provide adequate temperature and residence time in the reaction chambers to assure complete processing and are equipped with the necessary air pollution control equipment to meet state air pollution control regulations.</p> |
| 5-26. New and existing solid waste composting facilities must meet minimum operational requirements (WAC NR 502.08(9)). | <p>Verify that a sign is posted at the entrance to the facility which indicates the name, license number, the hours of operation, a list of all prohibited wastes, the penalty of unauthorized use, all necessary safety precautions, and other pertinent information.</p> <p>Verify that the facility is operated in accordance with the approved plan of operation.</p> <p>Verify that any storage of solid waste, with the exception of that in the process line, is in compliance with all storage facility requirements.</p> <p>Verify that unloading of solid waste takes place only in approved, designated areas.</p> <p>Verify that there is no open burning of solid waste.</p> |

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| 5-26. (continued) | <p>Verify that by-products or residues are disposed of in facilities approved to receive such waste or is handled by an alternative method approved by the Department.</p> <p>Verify that materials resulting from composting or similar processes and offered for sale are stabilized to eliminate pathogenic organisms and to not reheat upon standing, and are free of sharp particles which could cause injury to persons handling the compost.</p> |
| 5-27. New and existing solid waste composting facility must meet specific operating requirements concerning access and supervision (WAC NR 502.08(9)(b) and (c)). | <p>Verify that access to the processing facility is limited to those times that an attendant is on duty.</p> <p>Verify that the processing facility is operated under the close supervision of responsible individuals who are thoroughly familiar with the requirements and operation procedures of the plant.</p> |
| 5-28. New and existing solid waste composting facilities must meet specific operating requirements concerning dust, litter, and other nuisance conditions (WAC NR 502.08(9)(f), (j), (p), and (q)). | <p>Verify that flies, rodents, and other insects or vermin are controlled.</p> <p>Verify that the operation is conducted in a manner to prevent public health hazards and nuisances.</p> <p>Verify that the processing facility and adjacent area is kept clean and free from litter.</p> <p>Verify that dust generated by the unloading solid waste and the operation of the processing facility is controlled in accordance with the state air management rules so it does not create nuisance conditions.</p> |
| 5-29. New and existing solid waste composting facilities must not accept restricted wastes (WAC NR 502.08(9)(h) and (l)). | <p>Verify that waste containing free liquids and sludge waste is excluded unless plans specifically addressing the handling of these materials have been submitted and approved by the Department.</p> <p>Verify that asbestos or solid waste which is infectious, flammable, or explosive is not accepted.</p> |
| 5-30. New and existing solid waste composting facilities must take specific precautions in case of emergency (WAC NR 502.08(9)(g), (i), (o), and (r)). | <p>Verify that equipment is provided to control accidental fires and arrangements have been made with the local fire protection agency to provide immediate services when needed.</p> <p>Verify that all operators are trained to use appropriate safety equipment and who to contact in case of an emergency.</p> <p>Verify that means of communication with emergency facilities is provided.</p> <p>Verify that an approved solid waste disposal facility is provided for use in the event that the processing facility is rendered inoperable or is not able to completely process the solid waste.</p> |

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| <p>5-31. New and expanded solid waste processing facilities must meet additional operating requirements (WAC NR 502.08(11)).</p> <p>5-32. New and existing solid waste processing facilities must meet specific design requirements (WAC NR 502.08(10)).</p> | <p>Verify that all borrow areas are abandoned in accordance with Wisconsin Department of Transportation procedures.</p> <p>Verify that all facilities operated more than 4 h/day are equipped with a toilet and wash basin or have such facilities available within a reasonable distance.</p> <p>Verify that all access roads are constructed with a maximum grade no greater than 10 percent.</p> <p>Verify that all installed processing equipment is enclosed to prevent nuisance conditions from developing.</p> <p>Verify that all buildings enclosing processing equipment have a sloped concrete floor with floor drains connected to a sanitary sewer or other system approved by the Department.</p> <p>Verify that maximum soil slope for disturbed areas is three horizontal to one vertical.</p> <p>Verify that all areas disturbed during facility construction are graded, covered with 6 in. of topsoil, and seeded or otherwise protected from soil erosion.</p> <p>Verify that processing, receiving, or storage areas not enclosed by a building are graded at minimum 1 percent slope and surfaced with a material which will adequately support heavy equipment, resist frost action, provide a wearing surface, and prevent contamination of groundwater.</p> <p>Verify that explosion-prone equipment such as primary shredders are placed in a separate room with explosion venting or explosion suppression equipment.</p> <p>Verify that the receiving area and all dry processing units such as shredders, screens, air classification devices, magnetic separators, and similar equipment and all conveyor transfer points where dust is generated are shrouded and equipped with dust collection and removal equipment.</p> |
| <p>5-33. Closing solid waste processing facilities must meet specific requirements (WAC NR 502.08(14)).</p> | <p>Verify that the operator notifies the Department and all users of the facility in writing at least 120 days prior to ceasing to accept solid waste.</p> <p>Verify that a sign is placed at the entrance to the facility notifying all users that the facility is no longer accepting solid waste.</p> <p>Verify that access to the facility is restricted through the use of a fence, gate or other appropriate means.</p> <p>Verify that a closure plan has been submitted to the Department at least 120 days prior to facility closure.</p> |

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| <p>5-33. (continued)</p> <p>INCINERATORS</p> <p>5-34. Installations operating a solid waste incinerator must obtain an operating license (WAC NR 502.09(1)).</p> | <p>Verify that all aspects of facility closure other than monitoring is completed within 6 mo after ceasing to accept solid waste.</p> <p>(NOTE: Incinerators regulated under the section Municipal Solid Waste Combustors are not subject to regulation under this section.)</p> <p>Determine if the installation operates a solid waste incinerator.</p> <p>Determine if the facility meets any of the following exemptions from the licensing, plan approval, and ash testing requirements:</p> <ul style="list-style-type: none"> - incinerators having a capacity of 500 lb/h or less that are designed and operated in conformance with emission limitations of state air pollution control regulations - incinerators burning only clean wood waste. <p>Verify that the installation has obtained a license and operates the incineration facility in compliance with all conditions of the license.</p> |
| <p>5-35. Solid waste incinerators must meet operational requirements (WAC NR 502.09(5)(a) through (c), (o) through (q), and (s)).</p> | <p>Verify that the incinerator is situated, equipped, operated, and maintained to minimize interference with other activities in the area.</p> <p>Verify that adequate shelter and sanitary facilities are available for personnel.</p> <p>Verify that a sign is prominently posted at the entrance to the facility that indicates the name, license number, hours of operation, necessary safety precautions, and any other pertinent information.</p> <p>Verify that residue is disposed of at a solid waste facility licensed by the Department to accept the material or is handled by an alternate method approved in writing by the Department.</p> <p>Verify that all wastewater from the incinerator is discharged into a sanitary sewer or other sewer system approved by the Department.</p> <p>Verify that the Department is notified upon completion of construction of a new incinerator and at least 10 days prior to initial operation.</p> <p>Verify that there is no open burning.</p> <p>Verify that incoming waste is screened to eliminate unacceptable material from entering the facility such as hazardous waste, asbestos, explosive materials, or other materials which may endanger operator safety.</p> |

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| 5-36. Solid waste incinerators must keep records (WAC NR 502.09(5)(g)). | Verify that permanent records are maintained including the weights of material incinerated, the quantity of resulting residue, hours of plant operation, combustion temperatures, residence time, and other pertinent information. |
| 5-37. Solid waste incinerators must meet specific requirements concerning dust and other nuisance conditions (WAC NR 502.09(5)(f), (k), (m)). | Verify that adequate equipment is provided to allow cleaning after each day of operation or as required in order to maintain the plant in a sanitary condition. Verify that dust is controlled in the unloading and charging areas. Verify that the incinerator is designed and operated so that it will not cause a nuisance because of the emission of noxious odors, gases, contaminants, or particulate matter, or exceed emission limitations established by state air management rules. |
| 5-38. Solid waste incinerators must take specific precautions in case of emergency (WAC NR 502.09(5)(h) through (j), (l), (r)). | Verify that appropriate fire-fighting equipment is available in the storage and charging areas and elsewhere as needed. Verify that arrangements are made with the local fire protection agency to provide adequate emergency fire-fighting forces. Verify that a means of communication with emergency facilities is provided. Verify that the charging openings as well as all equipment throughout the plant are provided with adequate safety equipment. Verify that an approved alternative method is used for solid waste disposal during any time that the incinerator is inoperable. |
| 5-39. Solid waste incinerators must meet specific requirements concerning the storage of solid waste (WAC NR 502.09(5)(d) and (e)). | Verify that all incoming solid waste is confined to the designated storage area. Verify that any storage of solid waste is in compliance with applicable storage facility requirements. |
| 5-40. Installations that operate a solid waste incinerator must complete an ash testing program within 60 days of construction and shake-down of the incinerator (WAC NR 502.09(6)(a)). | Verify that an ash testing program is completed within 60 days of construction and shake-down of the incinerator. Verify that representative samples of both fly ash and bottom ash are tested for physical characteristics, bulk chemical composition, analysis using the appropriate leaching test, and analysis using the EP toxicity test or other test to determine the wastes' regulatory status under Federal or state hazardous waste laws. |

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| <p>5-41. Installations that operate a solid waste incinerator must establish a long-term ash testing program (WAC NR 502.09(6)(b)).</p> <p>AIR CURTAIN DESTRUCTORS</p> <p>5-42. Installations operating an air curtain destructor must have an operating license (WAC NR 502.10(1)).</p> <p>5-43. Air curtain destructors must meet general operational requirements (WAC NR 502.10(4)(d), (n), (q), and (r) through (u)).</p> <p>5-44. Air curtain destructors must meet specific operating requirements concerning the burning pit (WAC NR 502.10(4)(a) through (d) and (l)).</p> | <p>Verify that for the first year of operation, quarterly testing of at least one sample of bottom ash and one sample of fly ash is performed using approved methods and procedures.</p> <p>Verify that annual sampling and testing is performed after the first year of operation.</p> <p>Determine if the installation operates an air curtain destructor.</p> <p>Verify that the installation has obtained an operating license.</p> <p>Verify that the air curtain destructor is operated in conformance with the approved plan of operation.</p> <p>Verify that the charging area is paved with the concrete pad for a distance of at least 10 ft from the edge of the burning pit and sloped away from the chamber.</p> <p>Verify that warning signs are posted at intervals around the entire air curtain destructor facility notifying people to keep out of the area.</p> <p>Verify that a sign is posted at the entrance to the operation which indicates the name, acceptable wastes, license number, the hours of operation, penalty for nonauthorized use, necessary safety precautions, and any other pertinent information.</p> <p>Verify that surface water is diverted away from the active operating area, storage area, and access areas.</p> <p>Verify that ash resulting from the operation is disposed of at a facility approved by the Department to receive such material.</p> <p>Verify that the facility is operated in a nuisance-free manner and in accordance with the state air management rules.</p> <p>Verify that the burner is screened from the surrounding area.</p> <p>Verify that the burning pit is constructed of a material which will result in a pit of permanent dimensions.</p> <p>Verify that burning pits are not constructed of unconsolidated soils.</p> <p>Verify that maintenance is performed on the pit to keep its dimensions constant to keep the air curtain destructor working properly.</p> |

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| 5-44. (continued) | <p>Verify that the burning pit floor is constructed in a manner which provides for proper drainage.</p> <p>Verify that the burning pit is oriented perpendicular to the prevailing wind with the plenum chamber and blower on the downwind side.</p> <p>Verify that the burning pit is cleaned out on a regular schedule and that ashes are not allowed to accumulate to a depth of greater than 3 ft.</p> <p>Verify that adequate safety devices are provided to prevent loading equipment from falling into the burning pit.</p> |
| 5-45. Air curtain destructors must meet specific operating requirements concerning the stockpile of waste material (WAC NR 502.10(4)(f)). | <p>Verify that the stockpile of waste material is kept to a minimum of 100 ft from the burner.</p> <p>Verify that the stockpile is limited to 1 week of accumulation.</p> |
| 5-46. Air curtain destructors must meet specific requirements concerning the burning of waste (WAC NR 502.10(4)(e) and (h) through (j)). | <p>Verify that only clean wood, brush, and baled paper wastes are burned in an air curtain destructor.</p> <p>Verify that charging is done to prevent damage to the pit wall and floor.</p> <p>Verify that waste is carefully placed so that waste does not extend above the burning pit or interfere with air circulation.</p> <p>Verify that startup is accomplished by using kindling material to ignite larger materials rather than using fuel oil, tires, or other rubber materials.</p> <p>Verify that burning is conducted only during daylight hours and that quantities of materials to be burned are restricted to allow for complete burnout while the facility is attended.</p> |
| 5-47. Air curtain destructors must meet specific fire safety requirements (WAC NR 502.10(4)(k)). | <p>Verify that fire-fighting equipment is kept at the facility in case of emergency and that arrangements are also made with the local government to provide fire protection.</p> <p>Verify that fire breaks are provided for a distance of at least 100 ft from the air curtain destructor.</p> |
| 5-48. Air curtain destructors must meet specific separation distance requirements (WAC NR 502.10(4)(m)). | <p>Verify that a minimum separation distance of 1/4 mi is maintained between the burner and the nearest residence unless written consent is obtained from all adult residents with 1/4 mi of the licensed operation.</p> <p>Verify that if the air curtain destructor is located at an existing land disposal operation, a minimum separation distance of 200 ft is maintained between the burner and the working face of the land disposal operation.</p> |

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| <p>5-49. Air curtain destructors must meet specific access and supervision requirements (502.10(4)(o) and (p)).</p> <p>5-50. Closing air curtain destructor facilities must meet specific closure requirements (WAC NR 502.10(5)).</p> | <p>Verify that the air curtain destructor is surrounded by a fence with a lockable gate and that the gate is kept locked when no attendant is on duty.</p> <p>Verify that an attendant is on duty at all times when the blower unit is in operation and that all fires are out when the blower unit is shut off.</p> <p>Verify that the pit is cleaned out and properly backfilled.</p> <p>Verify that means for recycling, processing, and alternate disposal of the solid waste is provided.</p> <p>Verify that the facility area is cleaned up and all debris and litter collected and properly disposed.</p> <p>Verify that the Department is notified in writing at least 60 days prior to the proposed closure date.</p> |
| <p>WOODBURNING FACILITIES</p> <p>5-51. Installations must obtain a license in order to operate a woodburning facility (WAC NR 502.11(1)).</p> <p>5-52. Woodburning facilities must meet general operating requirements (WAC NR 502.11(4)(c), (g), (m), (n), and (o)).</p> | <p>Determine if the installation operates a woodburning facility.</p> <p>Verify that the installation has obtained an operating license and operates the facility in compliance with all conditions of the license.</p> <p>Verify that the facility is operated in conformance with the approved plan of operation.</p> <p>Verify that surface water is diverted away from the burning pad, storage area, and access areas.</p> <p>Verify that ash resulting from the operation is disposed of at a facility approved by the Department to receive such material.</p> <p>Verify that the facility is operated in a nuisance-free manner consistent with all local burning regulations and permits and in accordance with the state air management rules.</p> <p>Verify that fire-fighting equipment is kept at the facility in case of emergency unless the services of a local fire protection agency are arranged.</p> <p>Verify that stockpiles of waste material are a minimum of 100 ft from the burning pad and that the stockpile is limited to one week of accumulation unless safe burning conditions do not exist.</p> |

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| <p>5-53. Woodburning facilities must meet specific requirements concerning the burning of wastes (WAC NR 502.11(4)(a), (b), (d), (e), (j), and (o)).</p> | <p>Verify that a burning permit is obtained during fire season if the facility is located in a fire control area.</p> <p>Verify that all burning is done on a burning pad or pit which is surrounded by a firebreak of mineral soil scraped free of vegetation for a minimum distance of 100 ft around the burning pad or pit.</p> <p>Verify that only clean wood, brush, stumps, or trees are burned at the facility.</p> <p>Verify that startup is accomplished by using kindling material to ignite larger materials rather than using waste oil, tires, or other rubber materials.</p> <p>Verify that burning is conducted only during daylight hours and that quantities of materials to be burned are restricted to allow for complete burnout while the facility is attended.</p> <p>Verify that an attendant is on duty at all times when burning is taking place and that all fires are out before the attendant leaves the facility.</p> |
| <p>5-54. Woodburning facilities must meet specific separation distance requirements (WAC NR 502.11(4)(g)).</p> | <p>Verify that a minimum separation distance of 1/4 mi is maintained between the burning pad and the nearest residence unless written consent is obtained from all adult residents within 1/4 mi of the licensed operation.</p> <p>Verify that if the woodburning facility is located at an existing land disposal operation, a minimum separation distance of 200 ft is maintained between the burning pad and the working face of the land disposal operation.</p> |
| <p>5-55. Woodburning facilities must meet specific requirements concerning the burning pad (WAC NR 502.11(4)(h) and (i)).</p> <p>5-56. Woodburning facilities must have signs posted at the facility (WAC NR 502.11 (4)(k) and (l)).</p> | <p>Verify that the burning pad is screened from the surrounding area.</p> <p>Verify that the burning pad is surrounded by a fence with a lockable gate and that the gate is kept locked when no attendant is on duty.</p> <p>Verify that warning signs are posted at intervals around the facility notifying people to keep out of the area.</p> <p>Verify that a sign is posted at the entrance to the operation which indicates the name, acceptable waste, license number, the hours of operation, penalty for nonauthorized use, necessary safety precautions, and any other pertinent information.</p> |

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| <p>5-57. The closure of woodburning facilities must be conducted according to specific closure requirements (WAC NR 502.11(5)).</p> | <p>Verify that the Department is notified in writing at least 60 days prior the proposed closure date.</p> <p>Verify that the burning pad or pit is cleaned out and properly backfilled.</p> <p>Verify that means for recycling, processing, and alternate disposal of the solid waste is provided.</p> <p>Verify that the facility area is cleaned up and all debris and litter collected and properly disposed.</p> |
| <p>ONE-TIME DISPOSAL</p> <p>5-58. Installations operating a facility for the one-time disposal of agricultural or demolition solid waste must obtain written plan approval from the Department (WAC NR 502.12(1)).</p> | <p>(NOTE: Facilities approved under this section are exempt from licensing requirements.)</p> <p>(NOTE: These regulations also apply to facility expansions.)</p> <p>Determine if the installation is operating a facility for the one-time disposal of agricultural or demolition solid waste.</p> <p>Verify that the installation has obtained plan approval for the facility.</p> <p>Verify that the facility is operated in accordance with terms and conditions of the approved plan.</p> |
| <p>5-59. One-time disposal facilities must meet specific operating conditions (WAC NR 502.12(5)).</p> | <p>Verify that the facility life does not exceed 6 mo.</p> <p>Verify that the design capacity of the facility does not exceed 10,000 yd³.</p> <p>Verify that the facility is operated, maintained, and closed in a nuisance-free manner.</p> <p>Verify that screening is provided from all residences within 1/4 mi.</p> <p>Verify that a minimum ten foot separation distance from the water table is maintained unless the disposal facility is in a clay soil environment.</p> <p>Verify that access to the facility is restricted through the use of fencing or other means if approved by the Department.</p> |
| <p>5-60. The closure of a one-time disposal facility must be conducted according to specific closure requirements (WAC NR 502.12(7)).</p> | <p>Verify that closure occurs within 6 mo after disposal begins.</p> <p>Verify that the entire area previously used for disposal purposes is covered with at least 2 ft of compacted fine grain soil sloped adequately to allow surface water runoff.</p> |

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| <p>5-60. (continued)</p> <p>SMALL DEMOLITION WASTE LANDFILLS</p> <p>5-61. Installations operating a small demolition waste landfill must have written plan approval from the Department (WAC NR 502.13(1)).</p> <p>5-62. Small demolition waste landfills must meet specific operating requirements (WAC NR 502.13(6)).</p> <p>5-63. The closure of a small demolition waste landfill must be conducted according to specific closure requirements (WAC NR 502.13(7)).</p> | <p>Verify that top slopes are no less than two percent and that side slopes are no steeper than 33 percent.</p> <p>Verify that surface water is diverted to limit the potential for erosion and sedimentation.</p> <p>Verify that the finished surface of the filled area is covered with a minimum of 6 in. of topsoil.</p> <p>Verify that seeding, fertilizing, and mulching of the finished surface is accomplished in accordance with the facility's final use.</p> <p>Verify that following closure of the facility, the facility is inspected and maintained by the owner or operator until it becomes stabilized or until the responsibility of the owner or operator terminates in accordance with the plan approval.</p> |
| | <p>(NOTE: Demolition waste disposal facilities having a design capacity of less than 50,000 yd³ are exempt from licensing requirements.)</p> <p>Determine if the installation operates a small demolition waste landfill.</p> <p>Verify that the installation has obtained written plan approval and operates the facility in accordance with the approved plan.</p> <p>Verify that the facility is operated, maintained, and closed in a nuisance-free manner.</p> <p>Verify that screening is provided from all residences within 1/4 mi.</p> <p>Verify that a minimum ten foot separation distance from the water table is maintained unless the disposal facility is in a clay soil environment.</p> <p>Verify that access to the facility is restricted through the use of fencing or other means if approved by the Department.</p> <p>Verify that the entire area previously used for disposal purposes is covered with at least 2 ft of compacted fine grain soil sloped adequately to allow surface water runoff.</p> <p>Verify that top slopes are no less than two percent and that side slopes are no steeper than 33 percent.</p> <p>Verify that surface water is diverted to limit the potential for erosion and sedimentation.</p> |

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| <p>5-63. (continued)</p> <p>MUNICIPAL SOLID WASTE COMBUSTORS</p> <p>5-64. Installations operating a municipal solid waste combustor must obtain an operating license and written approval of a plan of operation (WAC NR 502.14(1)).</p> <p>5-65. Municipal solid waste combustors must meet general operating requirements (WAC NR 502.14(6)(a) through (c), (n) through (p), (r), and (7)).</p> | <p>Verify that the finished surface of the filled area is covered with a minimum of 6 in. of topsoil.</p> <p>Verify that seeding, fertilizing, and mulching of the finished surface is accomplished in accordance with the facility's final use.</p> <p>Verify that following closure of the facility, the facility is inspected and maintained by the owner or operator until it becomes stabilized or until the responsibility of the owner or operator terminates in accordance with the plan approval.</p> <p>Determine if the installation operates a municipal solid waste combustor.</p> <p>Verify that the installation has obtained an operating license and written plan approval.</p> <p>Verify that the municipal solid waste combustor is situated, equipped, operated, and maintained to minimize interference with other activities in the area.</p> <p>Verify that adequate shelter and sanitary facilities are available for facility personnel.</p> <p>Verify that a sign is prominently posted at the entrance to the facility which indicates name, license number, hours of operation, necessary safety precautions, and any other pertinent information.</p> <p>Verify that all wastewater from the combustor is discharged into a sanitary sewer or other system approved in writing by the Department.</p> <p>Verify that the Department is notified upon completion of construction of a new municipal solid waste combustor and at least 10 days prior to initial operation.</p> <p>Verify that an approved alternative method is used for solid waste disposal during any time that the municipal solid waste combustor is inoperable.</p> |

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| 5-65. (continued) | <p>Verify that residue is disposed of at a solid waste facility licensed by the Department to accept the material or is handled by an alternate method approved in writing by the Department.</p> <p>Verify that all treatment or mixing of residue is performed in a manner that controls air and water emissions.</p> |
| 5-66. Open burning is not allowed at municipal solid waste combustors (WAC NR 502.14(6)(q)). | Verify that open burning of solid waste is not conducted. |
| 5-67. Municipal solid waste combustors must meet specific requirements concerning the storage of solid waste (WAC NR 502.14(6)(d) and (e)). | <p>Verify that all incoming solid waste is confined to the designated storage area.</p> <p>Verify that incoming solid waste is stored in conformance with the operational requirements for noncontainerized storage facilities.</p> |
| 5-68. Municipal solid waste combustors must meet specific requirements concerning dust and other nuisance conditions (WAC NR 502.14(6)(f), (k), (m)). | <p>Verify that dust is controlled in the unloading and charging areas.</p> <p>Verify that adequate equipment is provided to allow cleaning after each day of operation or as may be required in order to maintain the plant in a sanitary condition.</p> <p>Verify that the municipal solid waste combustor is designed and operated so that it does not cause a nuisance because of the emission of noxious odors, gases, contaminants or particulate matter, or exceed emission limitations established by state air management rules.</p> |
| 5-69. Municipal solid waste combustors must meet specific safety requirements (WAC NR 502.14(6)(h) through (j)). | <p>Verify that appropriate fire-fighting equipment is available in the storage and charging areas and elsewhere as needed, and that arrangements have been made with the local fire protection agency to provide adequate emergency fire-fighting forces.</p> <p>Verify that means of communication with emergency facilities is provided.</p> <p>Verify that the charging openings as well as all equipment throughout the plant are provided with adequate safety equipment.</p> |
| 5-70. Residue storage at municipal solid waste combustors must meet specific requirements (WAC NR 502.14(6)(t)). | <p>Verify that the residue is wetted at all times during storage to prevent emissions.</p> <p>Verify that the storage area has an impervious surface on which the residue is stored and a collection system for any liquids coming into contact with the residue.</p> |

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| <p>5-70. (continued)</p> <p>5-71. Municipal solid waste combustors must meet specific residue sampling and testing requirements (WAC NR 502.14(7) and (8)).</p> <p>5-72. Municipal solid waste combustors must meet specific record keeping requirements (WAC NR 502.14(9) and (10)).</p> <p>5-73. Municipal solid waste combustor facilities must screen incoming wastes (WAC NR 502.14(11) and (12)).</p> | <p>Verify that all liquid that comes into contact with the residue, which is not used as makeup water in the quench tank, is treated at a wastewater treatment plant approved by the Department.</p> <p>Verify that access to the temporary storage area is restricted to authorized personnel by the use of fencing or other means of control acceptable to the Department.</p> <p>Verify that representative samples of residues produced by burning municipal solid waste are collected and tested in accordance with Departmental specifications.</p> <p>Verify that the following records are maintained at the facility:</p> <ul style="list-style-type: none"> - the hours of plant operation, combustion temperatures and residence time - the weight of material coming into the facility - the weight of material rejected by the facility and where it was sent - the weight of residue produced and where it was sent - a list of the states of origin of solid waste accepted at the facility in the previous year and the amount, by weight, originating in each state - the recording person's initials and the date of each entry. <p>Verify that the records are compiled and submitted to the Department as an annual report.</p> <p>Verify that the report covers the calendar year and is submitted no later than 1 April for the previous year.</p> <p>Verify that the annual report includes the results of all required testing for the previous year.</p> <p>Verify that the waste screening is in accordance with the approved waste screening plan.</p> <p>Verify that the following wastes are not accepted at the facility:</p> <ul style="list-style-type: none"> - alkaline batteries and similar heavy metal sources - hazardous wastes including waste produced by small quantity generators - household hazardous waste if separated from residential waste - white goods, large metal objects, lead/acid batteries, building materials, noncombustible furniture, office and farm equipment. <p>Verify that waste oils are only burned in compliance with state and Federal regulations.</p> |

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| <p>LANDFILLS</p> <p>5-74. Open burning of solid waste is prohibited at landfills unless an exemption is granted in writing by the Department (WAC NR 506.04(1)).</p> <p>5-75. Landfills serving a population equivalent of less than 2500 are eligible for an exemption allowing open burning but must meet specific criteria (WAC NR 506.04(2)).</p> <p>5-76. Landfills serving a population equivalent of 2500 or more but less than 10,000 are eligible for an open burning exemption to burn only clean wood and paper but must meet specific criteria (WAC NR 506.04(3)).</p> | <p>(NOTE: Facilities located in Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington, or Waukesha county are not eligible to open burn solid waste.)</p> <p>Determine if the installation operates a landfill.</p> <p>Verify that there is no open burning at the facility.</p> <p>Verify that all burning is done on a burning pad or pit which is separated from the active disposal area by a minimum of 200 ft and that a fire break of mineral soil scraped free of vegetation is maintained for a minimum distance of 100 ft around the burning pad or pit.</p> <p>Verify that fire protection equipment is maintained at the facility unless provisions are made for the services of a local fire protection agency.</p> <p>Verify that wet combustible garbage, oily substances, asphalt, plastic, and rubber products are not burned.</p> <p>Verify that the ash from the burning pad is removed and disposed of in a licensed landfill as often as necessary to allow for proper operation and at least every 30 days.</p> <p>Verify that the burning is done in compliance with all state and local burning regulations and permits.</p> <p>Verify that an attendant is present to supervise the burning operation and to ensure that any fire is completely extinguished at the end of each day.</p> <p>Verify that tires or flammable materials such as gasoline are not used for starting fires.</p> <p>Verify that all burning is done on a burning pad or pit which is separated from the active disposal area by a minimum of 200 ft and that a fire break of mineral soil scraped free of vegetation is maintained for a minimum distance of 100 ft around the burning pad or pit.</p> <p>Verify that fire protection equipment is maintained at the facility unless provisions are made for the services of a local fire protection agency.</p> <p>Verify that wet combustible garbage, oily substances, asphalt, plastic, and rubber products are not burned.</p> <p>Verify that the ash from the burning pad is removed and disposed of in a licensed landfill as often as necessary to allow for proper operation and at least every 30 days.</p> <p>Verify that the burning is done in compliance with all state and local burning regulations and permits.</p> |

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| <p>5-76. (continued)</p> | <p>Verify that an attendant is present to supervise the burning operation and to ensure that any fire is completely extinguished at the end of each day.</p> <p>Verify that tires or flammable materials such as gasoline are not used for starting fires.</p> <p>Verify that leaves, pine needles, painted or treated wood such as railroad ties and demolition material is not burned.</p> <p>Verify that paper to be burned is separately collected and stored in a nuisance-free manner.</p> |
| <p>5-77. Landfills must meet specific daily cover requirements (WAC NR 504.05).</p> | <p>Verify that all unprocessed municipal solid waste is compacted and completely covered at the end of each operating day with a compacted layer of at least 6 in. of soil or other material approved by the Department.</p> <p>Verify that if clay soil is used for daily cover purposes, it is scarified or removed prior to placement of the next lift of waste.</p> <p>Verify that all processed municipal solid waste, industrial waste, and commercial waste is compacted and completely covered at the end of each operating day with a compacted layer of at least 6 in. of soil or other material approved in writing by the Department.</p> <p>(NOTE: High volume industrial waste is not subject to daily cover requirements unless specifically required by the Department.)</p> |
| <p>5-78. Landfills must meet specific intermediate cover requirements (WAC NR 504.06).</p> | <p>Verify that unless otherwise approved by the Department in writing, any portion of a solid waste land disposal facility that has been used for waste disposal but will not receive additional solid waste for a period exceeding 6 mo is covered with 1 ft of fine grained intermediate cover.</p> <p>Verify that the intermediate cover is compacted and adequately sloped to allow surface water runoff, with a slope no less than 5 percent and no greater than 33 percent.</p> <p>(NOTE: This section does not apply to high volume industrial waste or to wood residue approved as a construction material or to provide protection of the liner from frost, unless specifically required by the Department.)</p> |
| <p>5-79. Landfills must meet final cover requirements (WAC NR 506.07(6)).</p> | <p>Verify that each phase of the facility has final cover placed over it as soon as possible after final grades are reached.</p> <p>Verify that by 15 September of each year, any areas that are at final grades are capped, topsoiled, and seeded.</p> |

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| <p>5-80. Landfills must meet general operating requirements (WAC NR 506.07(1)).</p> | <p>Verify that the landfill is operated in conformance with the approved plan of operation.</p> <p>Verify that a sign, acceptable to the Department is posted at the entrance of any facility operated for public use that indicates the facility name, license number, the hours of operation, waste types accepted, penalty for unauthorized use, necessary safety precautions, and any other pertinent information.</p> <p>Verify that the facility is surrounded with rapidly growing trees, shrubbery, fencing, berms, or other appropriate means to screen it from the surrounding area and to provide a wind break.</p> <p>Verify that there is no scavenging within the active disposal area.</p> <p>Verify that surface water drainage is diverted away from the working area and areas already filled with waste.</p> <p>Verify that putrescible materials such as spoiled foods and animal carcasses are immediately compacted and covered.</p> <p>Verify that the daily deposition of solid waste is confined to as small an area as practical.</p> <p>Verify that equipment is provided to control accidental fires and arrangements are made with the local fire protection agency to acquire its services when needed.</p> <p>Verify that provisions are made for back-up equipment in the event of operating equipment breakdown.</p> <p>Verify that all topsoil within the facility construction limits is salvaged and stored within the property boundaries for use in facility closure and that all stockpiled soil material which is not anticipated to be used within 6 mo is seeded.</p> |
| <p>5-81. Landfills must meet specific requirements concerning dust, litter, and other nuisance conditions (WAC NR 506.07(1)).</p> | <p>Verify that provisions are made to confine windblown material within the active disposal area.</p> <p>Verify that at the conclusion of each day of operation, all windblown material is collected and properly disposed of in the active area unless the operator establishes, to the satisfaction of the Department, that all windblown material cannot be collected using reasonable efforts because of conditions beyond the control of the operator; windblown material which can be collected using a reasonable effort has been collected and properly disposed of; and nuisance conditions do not exist.</p> <p>Verify that flies, rodents, and other insects and vermin are controlled.</p> <p>Verify that the gate area is policed at the beginning of each day of operation to remove any solid waste which has been indiscriminately dumped during periods when the facility was closed.</p> |

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| <p>5-81. (continued)</p> <p>5-82. Landfills must meet specific access requirements (WAC NR 506.07(1)).</p> <p>5-83. Landfills must meet minimum separation distance requirements (WAC NR 506.07(1)).</p> <p>5-84. Landfills must meet waste placement requirements (WAC NR 506.07(1)).</p> | <p>Verify that means acceptable to the Department are taken to control dust resulting from facility operation.</p> <p>Verify that an attendant is on duty at the facility at all times while it is open for public use.</p> <p>Verify that a gate is provided at the entrance to the operation and is kept locked when an attendant is not on duty.</p> <p>Verify that access to the facility is restricted through the use of fencing, natural barriers or other methods approved in writing by the Department.</p> <p>Verify that effective means are taken to limit access to the active disposal area to minimize exposure of the public to hazards.</p> <p>Verify that all access roads to the active area of the operation are of all-weather construction and are maintained in good condition.</p> <p>Verify that all access roads for the use of waste hauling trucks are constructed with a maximum grade no greater than 10 percent.</p> <p>Verify that a minimum separation distance of 20 ft is maintained between the limits of waste filling and adjacent property or the perimeter of the licensed acreage, whichever is closer at nonapproved facilities.</p> <p>Verify that a minimum separation distance of 100 ft is maintained between the limits of waste filling and the property boundary or the perimeter of the licensed acreage, whichever is closer for all new and expanded facilities and all approved facilities.</p> <p>Verify that for all landfills designed with liners, deposition of waste on the granular drainage blanket begins at the edge of each phase and that waste is pushed out over the granular blanket.</p> <p>Verify that vehicles are not driven directly on the granular blanket.</p> <p>Verify that for all landfills designed with liners, a layer of waste at least 4 ft thick or an adequate amount of other frost protection material is placed over the granular blanket in all portions of the lined area prior to 31 December of the year the liner was constructed.</p> <p>Verify that waste is not placed during the winter on any portion of the liner not having a 4 ft thick layer of waste or other adequate frost protection material covering it after 31 December each year.</p> <p>Verify that each single layer of municipal solid waste is spread and compacted in 2 ft layers.</p> |

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| 5-85. Landfills must meet gas control requirements (WAC NR 506.07(3)). | <p>Verify that effective means are utilized to prevent the migration of explosive gases generated by the waste fill.</p> <p>Verify that at no time does the concentration of explosive gases in any facility structure, excluding the leachate collection system, or gas control or recovery system components, or in the soils or air at or beyond the facility property boundary exceed 25 percent of the lower explosive limit for such gases.</p> |
| 5-86. Landfills must operate leachate collection systems (WAC NR 506.07(4)). | <p>Verify that leachate is removed from all collection tanks, manholes, lift stations, sumps, or other structures used for leachate storage as often as necessary to allow for gravity drainage of leachate from the facility at all times.</p> <p>Verify that all leachate removed from a leachate collection system is disposed of at a wastewater treatment facility approved by the Department and capable of accepting the leachate in accordance with the requirements of its WPDES permit.</p> <p>Verify that any liquid that comes in contact with waste or accumulates in a portion of the facility where active waste disposal operations are occurring is handled as leachate and properly treated.</p> <p>Verify that all leachate collection lines are cleaned with a water jet cleanout device immediately after construction, after the first layer of waste has been placed over an entire phase and annually thereafter.</p> |
| 5-87. Landfills must abandon all borrow areas established after 1 February 1988 (WAC NR 506.07(5)). | Verify that all borrow areas established after 1 February 1988 are abandoned in accordance with section 208.3, Wisconsin Department of Transportation standard specification for road and bridge construction. |
| 5-88. Landfills that are closing must meet specific closure requirements (WAC NR 506.08(1), (2), and (4)). | <p>Verify that closure of the facility is in accordance with the approved closure plan.</p> <p>Verify that the Department is notified of the intent to close the facility and the expected date of closure at least 120 days prior to closing the facility and that prior to this date all users of the facility are notified of the intent to close the facility so that alternative disposal options can be arranged.</p> <p>Verify that signs are posted at all points of access to the facility at least 30 days prior to closure indicating the date of closure and alternative disposal facilities, unless the facility is operated by and only serves a single generator and is not open to the public.</p> |

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| <p>5-88. (continued)</p> | <p>Verify that notice of the upcoming closure is published in a local newspaper at least 30 days prior to closure and a copy of the notice is provided to the Department within 10 days of the date of publication, unless the facility is operated by and only serves a single generator and is not open to the public.</p> <p>Verify that within 10 days after ceasing to accept waste, access is restricted by the use of gates, fencing, or other appropriate means to insure against further use of the facility, or if final use allows access, that such access is restricted until closure has been completed and approved by the Department.</p> <p>Verify that within 90 days after ceasing to accept waste, or if waste termination is after 15 September, within 90 days after 15 March of the following year, the owner or operator completes seeding, fertilizing, and mulching of the finished surface.</p> <p>Verify that a closed landfill is not used for the following activities unless specifically approved by the Department:</p> <ul style="list-style-type: none"> - use of the facility for agricultural purposes - establishment or construction of any buildings - excavation of the final cover or any waste materials. |
| <p>5-89. Landfills without approved closure plans must accomplish closure within 60 days after ceasing to accept waste in accordance with specific closure requirements (WAC NR 506.08(3)).</p> | <p>Verify that the entire area previously used for disposal purposes are covered with at least 2 ft of compacted earth sloped adequately to allow surface water runoff.</p> <p>Verify that the surface water run-on is diverted around all areas used for waste disposal to limit the potential for erosion of the cover soil and increased infiltration.</p> <p>Verify that drainage swales conveying surface water runoff over previous waste disposal areas are lined with a maximum thickness of 2 ft of clay.</p> <p>Verify that final slopes of the facility are greater than 2 percent but do not exceed three horizontal to one vertical.</p> <p>Verify that the finished surface of the disposal area is covered with a minimum of 6 in. of topsoil.</p> |
| <p>5-90. Landfills must only accept approved waste types (WAC NR 506.09).</p> | <p>Verify that only waste types and sources listed in the approved plan of operation, wastes previously approved by the Department in writing, or otherwise approved in this protocol are accepted for disposal.</p> |

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| <p>5-91. Landfills that dispose of asbestos must meet specific requirements (WAC NR 506.10).</p> | <p>Verify that the facility is licensed and approved.</p> <p>Verify that there is no open burning at the facility.</p> <p>Verify that the facility has written approval from the Department prior to accepting asbestos.</p> <p>Verify that the asbestos is disposed of at the base of the active working face and that a specific disposal trench is excavated into existing refuse.</p> <p>Verify that the asbestos is placed into the excavated trench and is immediately covered with a minimum of 3 ft of waste or soil prior to compaction.</p> <p>Verify that the location of asbestos disposal areas does not coincide with previous asbestos disposal areas or proposed future landfill construction.</p> <p>Verify that all applicable safety measures dealing with the safety of personnel working with asbestos are followed.</p> |
| <p>5-92. Landfills that dispose of infectious waste must meet specific requirements (WAC NR 506.11).</p> | <p>Verify that any infectious waste disposed of at the landfill has been incinerated in a controlled air, multi-chambered incinerator which provides complete combustion of the waste to carbonized or mineralized ash or has otherwise been treated, processed, or handled by a generally accepted medical process which renders the waste noninfectious.</p> <p>(NOTE: The Department has developed strict guidelines covering infectious waste. These guidelines contain information on exemptions that may apply to infectious waste; categorical definitions of infectious waste; recommended handling and storage procedures for infectious waste; treatment methods for infectious waste; reporting requirements for the disposal of infectious waste; and appendices that supplement information contained in the guidelines.)</p> |
| <p>5-93. Landfills that dispose of ultra low-level radioactive waste must meet specific requirements (WAC NR 506.12).</p> | <p>Verify that the facility meets the following criteria:</p> <ul style="list-style-type: none"> - the facility is licensed and approved - the facility has been approved by the Department in writing to accept ultra low-level radioactive waste. <p>Verify that sludge wastes meet all applicable regulations pertaining to the disposal of free liquid wastes or nonfree liquid solid wastes.</p> <p>Verify that a plan has been submitted which addresses the control of any radon gas generated by the waste.</p> |

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| <p>5-94. Landfills used for the disposal of municipal waste may accept waste containing free liquids amounting to no more than 55 gal on a one-time basis provided that specific requirements are met (WAC NR 506.13(1)).</p> | <p>Verify that the material has been tested and determined to be nonhazardous.</p> <p>Verify that the facility is licensed and approved.</p> <p>Verify that the facility is in compliance with all solid waste regulations and any approved plan of operation.</p> <p>Verify that the Department is notified prior to disposal.</p> |
| <p>5-95. Landfills that dispose of municipal solid waste must meet specific regulations prior to accepting waste that contains free liquids (WAC NR 506.13(2)).</p> | <p>Verify that the facility is licensed and approved.</p> <p>Verify that the facility is in compliance with all solid waste regulations and any approved plan of operation.</p> <p>Verify that the facility meets minimum landfill design criteria.</p> <p>Verify that the material to be disposed is specifically approved in writing by the Department.</p> |
| <p>5-96. Landfills used for the disposal of municipal waste may accept sludge wastes amounting to less than 50 yd³/yr per generator provided that specific requirements are met (WAC NR 506.14(1)).</p> | <p>(NOTE: Nonmunicipal landfills may accept waste containing free liquids only in accordance with plans approved by the Department.)</p> <p>Verify that the material has been tested and determined to be nonhazardous.</p> <p>Verify that the facility is licensed and approved.</p> <p>Verify that the facility is in compliance with all solid waste regulations and any approved plan of operation.</p> <p>Verify that the Department is notified prior to disposal.</p> |
| <p>5-97. Landfills that are used for the disposal of municipal solid waste must meet specific requirements prior to accepting nonfree liquid wastes (WAC NR 506.14(2)).</p> | <p>Verify that the facility is licensed and approved.</p> <p>Verify that the facility is in compliance with all solid waste regulations and any approved plan of operation.</p> <p>Verify that the material has been tested and determined not to contain free liquid.</p> <p>Verify that any required reports are submitted to the Department.</p> |
| | <p>(NOTE: Nonmunicipal landfills may only accept sludge that does not contain free liquids in accordance with plans approved by the Department.)</p> |

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| 5-98. Landfills must have written approval from the Department before disposing of residue produced by the burning of municipal solid waste (WAC NR 506.15(1)). | Verify that written approval has been obtained from the Department. |
| 5-99. Landfills that dispose of residue produced by the burning of municipal solid waste must meet specific operating requirements (WAC NR 506.15(3)). | <p>Verify that wind blown material is prevented.</p> <p>Verify that cover soil is used during filling operations to restrict the exposed residue area of disposal to as small an area as practical, and that in no case is the exposed residue area larger than 50 ft by 100 ft.</p> <p>Verify that filled areas, other than the active residue disposal area, are covered with soil or a Department approved soil substitute.</p> <p>Verify that equipment operators are provided with appropriate safety equipment, such as respirators.</p> <p>Verify that only residue that has been tested in accordance with Department standards is accepted.</p> |
| 5-100. Landfills must have written approval from the Department before accepting very small quantities of hazardous waste (WAC NR 506.155). | Verify that the landfill has obtained approval from the Department and complies with all conditions of the approval. |
| 5-101. Landfills accepting very small quantities of hazardous waste must meet general requirements (WAC NR 506.155(1) and (2)). | <p>Verify that the facility is in compliance with all solid waste regulations and any plan approval.</p> <p>Verify that an annual report is submitted to the Department no later than 1 April of the following year which documents the types and quantities of hazardous waste accepted during the previous year, the generators and transporters of the waste, and any other information required by the Department.</p> <p>Verify that waste management fund fees for all hazardous waste quantities accepted are paid.</p> |
| 5-102. New landfills and expansions to existing facilities must conduct monitoring (WAC NR 508.04). | <p>(NOTE: The Department may also require monitoring at existing facilities, regardless of whether the facility remains in operation.)</p> <p>Verify that the facility conducts any monitoring required by the Department including monitoring of groundwater, the unsaturated zone, leachate, gas, surface water, or other physical features.</p> |

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| <p>LANDSPREADING OF SOLID WASTE</p> <p>5-103. Installations that operate a solid waste landspreading facility must obtain written approval from the Department of a solid waste landspreading plan (WAC NR 518.04).</p> | <p>(NOTE: Landspreading facilities that are in compliance with all requirements of this section are exempt from licensing requirements.)</p> <p>Determine if the installation operates a solid waste landspreading facility.</p> <p>Determine if the facility meets any of the exemptions from these requirements found in Appendix 5-2.</p> <p>Verify that the installation has obtained plan approval from the Department and complies with all conditions of the approval.</p> |
| <p>5-104. Solid waste landspreading facilities must meet specific location standards (WAC NR 518.05(3)).</p> | <p>Verify that the landspreading facility is not located within the following areas:</p> <ul style="list-style-type: none"> - within 100 ft of any navigable body of water - within 100 ft of any navigable body of water - within 1000 ft of any public water supply wells or 200 ft of private water supply wells - within 500 ft of any residence, unless written consent is obtained from the resident - within 10,000 ft of any airport runway used or planned to be used by turbojet aircraft or within 5000 ft of any airport runway used only by piston type aircraft or within such other areas where a substantial potential bird hazard to aircraft would be created. <p>(NOTE: The airport requirement only applies to facilities used for handling putrescible waste.)</p> |
| <p>5-105. Landspreading facilities must meet specific performance standards (WAC NR 518.05(4)).</p> | <p>Verify that a facility is not established, constructed, operated, or maintained within an area where there is a reasonable probability that the facility will cause the following:</p> <ul style="list-style-type: none"> - a significant adverse impact on wetlands - a significant adverse impact on critical habitat areas - a detrimental effect on any surface water - a detrimental effect on groundwater quality - the migration and concentration of explosive gases in any facility structures or in the soils or air at or beyond the facility property boundary in excess of 25 percent of the lower explosive limit for such gases at any time - the emission of any hazardous air contaminant exceeding departmental limitations for those substances. |

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| <p>5-106. Landspreading facilities must meet specific operating requirements (WAC NR 518.07).</p> | <p>Verify that the facility is operated in accordance with the solid waste landspreading plan.</p> <p>Verify that only approved waste types are disposed at the facility.</p> <p>Verify that depending on the type of operation to be conducted, solid waste materials are plowed, disced, or otherwise incorporated into the surface soil layer at appropriate intervals as specified in the solid waste landspreading plan to minimize surface water runoff, surface leaching, and to control objectionable odors.</p> <p>Verify that a vegetative buffer strip is maintained between any navigable water and the application area.</p> <p>Verify that no solid waste is deposited in areas containing ponded or standing water.</p> <p>Verify that maximum one time and cumulative application rates of cadmium and other heavy metals are in accordance with Department specifications, Technical Bulletin 88, and any other appropriate technical literature.</p> <p>Verify that waste materials with significant pathogen bacteria content are properly stabilized prior to landspreading.</p> <p>Verify that food chain crops grown on solid waste landspreading facilities that have received waste applications containing pesticides or persistent organic materials are not marketed or used for human or animal consumption unless the crops meet all applicable contaminant levels as established by the U.S. Food and Drug Administration or the State of Wisconsin.</p> <p>Verify that all required monitoring and submittal of monitoring reports is conducted in accordance with the approved solid waste landspreading plan.</p> |

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| <p>5-107. Landspreading facilities that are closing must meet specific closing requirements (WAC NR 518.08).</p> <p>WASTE SEPARATION AND RECYCLING COLLECTION FACILITIES</p> <p>5-108. Waste separation and recycling collection facilities must meet location requirements (WAC NR 540.04).</p> | <p>Verify that the facility is closed in accordance with the approved closure plan.</p> <p>Verify that the Department is notified in writing of the intent to close the facility at least 120 days prior to the closing of the facility.</p> <p>Verify that the following closure work is completed within 90 days of the final closure date of the facility:</p> <ul style="list-style-type: none"> - discing, plowing, or otherwise incorporating all deposited solid waste materials into the surface soil layers, or covering all landspreading areas with an adequate thickness of final earth cover material - providing for the control of surface water runoff to minimize adverse effects on surface water and groundwater quality - establishing a vegetative cover to promote evapotranspiration and to control soil erosion, and otherwise preparing the land surface for the intended future land use - continuing to grow crops and conducting the associated monitoring work - performing the required environmental monitoring work associated with the approved final closure and long-term plans. <p>(NOTE: A solid waste facility license is not required for a waste separation and recycling collection facility developed in compliance with these rules.)</p> <p>Verify that the facility is not located in a critical habitat area, floodplain, or a wetland.</p> <p>Verify that a waste separation and recycling collection facility required to be provided at a solid waste disposal facility is within the property limits of the solid waste disposal facility.</p> <p>Verify that a waste separation and recycling collection facility required to be provided by a municipality is located within the corporate limits of the municipality.</p> |

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| <p>5-109. Waste separation and recycling collection facilities must meet design and operation standards (WAC NR 540.06).</p> | <p>Verify that facilities for newsprint provide protection from precipitation and direct exposure to sunlight.</p> <p>Verify that facilities are designed and operated to minimize the potential for safety hazards, especially from broken glass.</p> <p>Verify that facilities are designed and operated to minimize the potential for litter and the mixing of contaminants into otherwise properly separated materials.</p> <p>Verify that facilities are designed and operated to minimize vandalism.</p> <p>Verify that a sign is posted to clearly describe materials collected, preparation required before depositing the materials at the facility, the hours of operation, the name of the owner or operator of the facility, and the name, address, and telephone number of the responsible official to contact.</p> <p>Verify that adequate capacity is provided to store sufficient quantities of material prior to transportation to markets.</p> <p>Verify that the design and operation of a waste separation and recycling collection facility located at a solid waste disposal facility do not interfere with proper operation of the solid waste disposal facility.</p> |
| <p>5-110. Waste separation and recycling collection facilities must meet specific notification requirements (WAC NR 540.08).</p> | <p>Verify that upon the development of a required waste separation and recycling collection facility, the Department is notified of the following information:</p> <ul style="list-style-type: none"> - name, address, and telephone number of the responsible official - location of the waste separation and recycling collection facility - hours of operation - materials collected. |
| | <p>Verify that an annual report is submitted to the Department by 1 March of each year that describes for the previous calendar year the amount of material collected, the markets to which materials were taken, a description of any major problems in marketing the collected materials, and an estimate of disposal volume and disposal cost saved due to recycling.</p> |

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| <p>PROHIBITED DISPOSAL AND INCINERATION</p> <p>5-112. Installations must not dispose of or incinerate prohibited wastes (WAC 159.07).</p> | <p>Verify that waste oil is not disposed of in a solid waste disposal facility or burned without energy recovery in a solid waste treatment facility.</p> <p>Verify that beginning on 3 January 1993, yard waste is not disposed of in a solid waste disposal facility, except in a land spreading facility, or burned without energy recovery in a solid waste facility.</p> <p>Verify that beginning on 1 January 1995, the following are not disposed of in a solid waste disposal facility, burned with or without energy recovery or converted to fuel in a solid waste treatment facility:</p> <ul style="list-style-type: none"> - aluminum containers - corrugated paper or other container board - foam polystyrene packaging - glass containers - magazines or other material printed on similar paper - newspaper or other material printed on newsprint - office paper - plastic containers - steel containers - waste tires - containers for carbonated or malt beverages that are primarily made of a combination of steel and aluminum. |

Appendix 5-1

Exemptions From Solid Waste Requirements (NR 500 through 522) (WAC NR 500.08)

The following facilities are exempt from all requirements of chapters NR 500 through 522:

- facilities used for the disposal of solid waste from a single family or household on the property where it is generated
- riprapping projects using inert solid waste materials approved by the Department, or in submerged shorelands in Lake Michigan.

The following facilities are exempt from licensing and the requirements of chapters NR 500 through 522 but they must be established in conformance with landfill locational requirements concerning flood-plains, landfill performance standards, and they must be operated and maintained in a nuisance-free and aesthetic manner:

- facilities where only clean soil, brick, building stone, concrete, reinforced concrete, broken pavement, and unpainted or untreated wood are disposed
- facilities for the exclusive disposal of spoils from sand, gravel or stone, and crushed stone quarry operations and similar nonmetallic earth materials
- facilities for the disposal of wood residue from a saw mill, debarker, or equivalent industry which produces less than 5000 board feet of lumber per year or equivalent and the total disposal facility volume is less than 500 yd³ or wood residue.

The following facilities are exempt from the licensing and plan review requirements of chapters NR 500 through 522 but must be developed in accordance with the following requirements:

- dredged material determined by the department to be clean and designated for in-water disposal
- facilities for the disposal of nonhazardous dredged material consisting of less than 3000 yd³ from Lake Michigan, Lake Superior, the Wisconsin River, the Sheboygan River, the Milwaukee River, the Brule and Menominee Rivers, the Fox River, the Mississippi River, or from any inland lakes or ponds treated with arsenicals provided the facility complies with landfill performance standards
- facilities for the disposal of nonhazardous dredged material from inland lakes or ponds that have not been treated with arsenicals provided the facility complies with landfill performance standards.

Exemptions from the requirements of chapters NR 500 through 522 may also be granted in writing by the Department in special cases.

The Department may also grant exemptions from any of the requirements of chapters NR 500 through 520 for municipal solid waste combustors and any other solid waste facilities that manage the residue from municipal solid waste combustors.

Appendix 5-2

Exemptions From Solid Waste Landspreading Requirements

(Source: WAC NR 518.04)

The following landspreading facilities are exempt from the requirements of this chapter provided the solid waste or solid waste derived product is applied as a soil conditioner or fertilizer in accordance with accepted agricultural practices and the facility is operated and maintained in a safe, nuisance-free manner:

- facilities used for the landspreading of nonhazardous solid waste from a single facility or household, a member of which is the owner, occupant, or lessee of the property used for solid waste disposal
- farms on which only nonhazardous agricultural solid wastes resulting from the operation of a farm, including farm animal manure, are disposed
- facilities receiving only sludge from a publicly-owned treatment work or a privately-owned domestic sewage treatment work with a pollution discharge permit, provided that the sludge disposal is accomplished in accordance with the permit of the treatment work
- facilities servicing septic tanks, soil absorption fields, holding tanks, grease traps, or privies
- facilities used for the disposal of treated liquid municipal or industrial wastewater that are specifically approved or have a pollution discharge permit
- facilities used for the landspreading of whey
- facilities used for the landspreading of vegetable waste from canned, frozen, or preserved fruit and vegetable processing operations
- facilities used for the landspreading of composted leaves, grass, brush, and other similar vegetable matter.

Facilities used solely for research purposes under the direction of a registered professional engineer in the State of Wisconsin or a scientist employed by a university located within this state are exempt from the plan submittal requirements of this chapter if the applicant provides to the Department information sufficient to show that the project meets the following requirements:

- that the net plot area, excluding plot borders and buffer strips, does not exceed four acres
- that the available nitrogen and heavy metal additions averaged over the total plot area do not exceed the rates specified by the Department for municipal sewage sludges or those identified in the literature as being toxic to specific plants or plant groups
- that the facility is developed, operated, monitored, and maintained in a safe, nuisance-free manner
- that copies of the research proposal are provided to the Department in advance of initiating the research.

Facilities used for the landspreading of lime sludges from papermills or water supply treatment facilities are exempt from the requirements of this chapter provided that the proposal is reviewed and approved by the Department and the material meets the following requirements:

- has been analyzed in accordance with the solid waste landspreading plan
- has been determined by the Department to have value as a soil conditioner or fertilizer
- is applied in accordance with accepted agricultural practices and any Department issued approval.

(NOTE: This does not apply to lime sludges from papermills that were being landspread prior to 1 January 1987.)

Appendix 5-2 (continued)

Facilities used exclusively for the landspreading of nonhazardous industrial sludges are exempt from the requirements of this chapter provided the material is:

- analyzed in accordance with the solid waste landspreading plan
- determined by the Department to have value as a soil conditioner or fertilizer
- generated at an industrial wastewater treatment facility and that the landspreading facility is a permitted industrial wastewater treatment facility
- not repeatedly applied so that excessive accumulation of hazardous substances occur in soil or vegetation, or cause a detrimental effect on surface water quality or cause a detrimental effect on groundwater quality or cause or exacerbate an attainment or exceedance of any preventive action limit or enforcement standard at a point of standards application.

Facilities used for the landspreading of wood or coal ash are exempt from the requirements of this chapter provided that the proposal is reviewed and approved by the Department and the material is:

- analyzed in accordance with the solid waste landspreading plan
- determined by the Department to have value as a soil conditioner or fertilizer
- applied in accordance with accepted agricultural practices and any Department issued approval
- not repeatedly applied so that excessive accumulation of hazardous substances occur in soil or vegetation, or cause a detrimental effect on surface water quality or cause a detrimental effect on groundwater quality or cause or exacerbate an attainment or exceedance of any preventive action limit or enforcement standard at a point of standards application.

Facilities for the landspreading of other wastes such as fish or the remains of butchered animals may be exempted from the requirements of the chapter provided that the Department approves the proposal in writing and the the following requirements are met:

- material is analyzed in accordance with the solid waste landspreading plan
- material is determined by the Department to have value as a soil conditioner or fertilizer
- material is applied in accordance with accepted agricultural practices and any Department issued approval
- a brief discussion is included which identifies the facility location, proposed application rates, the proposed method for incorporating the material, and the length of time each facility will be used.

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SECTION 6

RESOURCE CONSERVATION AND RECOVERY ACT,

SUBTITLE I (RCRA-I)

Wisconsin Supplement

SECTION 6

RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE I (RCRA-I)

Wisconsin Supplement

The following definitions are taken from the Wisconsin Administrative Code (WAC) of the Department of Industry, Labor, and Human Relations (ILHR), Chapter ILHR 10, *Flammable and Combustible Liquids*.

Definitions

- *Ancillary Equipment* - any device including piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from an underground storage tank (UST).
- *Approved* - acceptable to the Department.
- *AST* - aboveground storage tank.
- *Authorized Deputy* - a person authorized by the Department to perform duties.
- *Beneath the Surface of the Ground* - beneath the ground surface or otherwise covered with earthen materials.
- *Business Day* - any day Monday to Friday, excluding legal holidays.
- *Cathodic Protection* - a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. A tank system may be cathodically protected through the application of either galvanic anode or impressed current.
- *Cathodic Protection Tester* - a person who can demonstrate an understanding of the principles and measurements of all common types of cathodic protection systems as applied to buried or submerged metal piping and tank systems. At a minimum, such persons must have education and experience in soil resistivity, stray current, structure-to-soil potential, and component electrical isolation measurements of buried metal piping and tank systems.
- *CERCLA* - the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*, as amended.
- *Certified Cleaner* - a person certified by the Department to remove accumulated sludges and remaining product from tanks that are to be closed, undergo a change-in-service, or otherwise completely emptied and inerted.
- *Certified Inspector* - a person certified by the Department to inspect storage tank systems.
- *Certified Installer* - a person who is certified by the Department to install and repair storage tank systems.

- ***Certified Liner*** - a person who is certified by the Department to install an interior lining to a storage tank.
- ***Certified Remover*** - a person who is certified by the Department to remove storage tank systems.
- ***Certified Site Assessor*** - a person certified by the Department to conduct a site assessment and collect samples necessary for that site assessment.
- ***Certified Tightness Tester*** - a person who is certified by the Department to perform tightness testing to determine the presence of leaks in storage tank systems.
- ***Change-in-Service*** - continued use of a storage tank system that previously stored a regulated substance to store a nonregulated substance.
- ***Combustible Liquid*** - a liquid having a flash point at or above 100 °F.
- ***Compatible*** - the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST system.
- ***Connected Piping*** - all underground piping including valves, elbows, joints, flanges, and flexible connectors attached to a tank system through which regulated substances flow.
- ***Consumptive Use*** - with respect to heating oil, means consumed on the premises where the UST system is located.
- ***Corrosion Expert*** - a person who, by reason of thorough knowledge of the physical sciences and the principles of engineering and mathematics acquired by a professional education and related practical experience, is qualified to engage in the practice of corrosion control on buried or submerged metal piping systems and metal tanks. The person must be accredited or certified as being qualified by the National Association of Corrosion Engineers (NACE) or be a registered professional engineer who has education and experience in corrosion control of buried or submerged metal piping systems and metal tanks.
- ***Department*** - the Department of Industry, Labor, and Human Relations.
- ***Dielectric Material*** - a material that does not conduct direct electrical current. Dielectric coatings are used to electrically isolate UST systems from the surrounding soils. Dielectric bushings are used to electrically isolate portions of the UST system, such as the tank from piping.
- ***Electrical Equipment*** - underground equipment that contains dielectric fluid that is necessary for the operation of equipment such as transformers and buried electrical cable.
- ***Excavation Zone*** - the volume containing the tank system and backfill material bounded by the ground surface, walls and floor of the pit and trenches into which the UST system is placed at the time of installation.
- ***Existing*** - installed or in place on or prior to 1 May 1991.
- ***Existing Tank System*** - a tank system used to contain an accumulation of regulated substances or for which installation has commenced on or prior to 1 May 1991 or other specified date. Installation is

considered to have commenced if the operator has obtained all Federal, state, and local approvals or permits necessary to begin physical construction of the tank system site or installation of the tank system and a continuous onsite physical construction or installation program has begun.

- **Farm Tank** - a tank located on a tract of land devoted to the production of crops or raising animals, including fish, and associated residences and improvements. A farm tank must be located on the farm property. *Farm* includes fish hatcheries, rangeland and nurseries with growing operations.
- **Flammable Liquid** - a liquid having flash point below 100 °F and having a vapor pressure not exceeding 40 psia at 100 °F. These materials are also known as Class I liquids. Class I liquids are subdivided as follows:
 - *Class IA* means those liquids having flash points below 73 °F and having a boiling point below 100 °F.
 - *Class IB* means those liquids having flash points below 73 °F and having a boiling point at or above 100 °F.
 - *Class IC* means those liquids having flash points at or above 73 °F and below 100 °F.
- **Flash point** - the minimum temperature at which a flammable or combustible liquid will give off sufficient flammable vapors to form an ignitable mixture with air near the surface of the liquid or within the vessel as determined by the following test methods:
 - American Society for Testing and Materials (ASTM) D56 - Standard Test Method for Flash Point by Tag Closed Tester for liquids having a viscosity of 45 Saybolt Universal Second (SUS) or more at 100 °F and a flash point of 200 °F or higher
 - ASTM D93 - Standard Test Methods for Flash Point by Pensky-Martens Closed Tester for liquids having a viscosity less than 45 SUS or more at 100 °F or a flash point of 200 °F or higher
 - as an alternative, ASTM D3278 - Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester, may be used for paints, enamels, lacquers, varnishes and related products and their components having flash points between 32 °F and 230 °F, and having a viscosity lower than 150 stokes at 77 °F
 - as an alternate, ASTM D3828 - Standard Test Methods for Flash Point by Setaflash Closed Tester, may be used for testing aviation turbine fuels.
- **Flow Through Process Tank** - any tank that is an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction into the production process or for storage of finished products or by-products from the production process.
- **Free Product** - a regulated substance that is present as a nonaqueous phase liquid, such a liquid not dissolved in water.
- **Gathering Lines** - any pipeline, equipment, facility or building used in the transportation of oil or gas during oil or gas production or gathering operations.
- **Hazardous Substance Underground Storage Tank System** - a UST system that contains a hazardous substance defined in section 101(14) of the *Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980* (but not including any substance regulated as a hazardous waste under subtitle C) or any mixture of such substances and petroleum, and which is not a petroleum UST system.

- ***Heating Oil*** - petroleum that is No. 1, No. 2, No. 4-light, No. 4-heavy, No. 5-light, No. 5-heavy, and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.
- ***Hydraulic Lift Tank*** - a tank holding hydraulic fluid for a closed-loop mechanical system that uses compressed air or hydraulic fluid to operate lifts, elevators, and other similar devices.
- ***Interstitial Monitoring*** - a leak detection method that entails the surveillance of the space between a UST system's walls and the secondary containment system for a change in steady state conditions. In a double-walled tank, this change may be indicated by a loss of vacuum, a drop in pressure, a drop in the fluid level is a visible reservoir, or the detection of the regulated substance or water in the interstitial space or both. In a secondary containment system consisting of a natural or synthetic liner or a vault, the surveillance consists of frequent or continuous sampling from a monitoring well or interstitial monitor between the UST and the liner to detect the presence of regulated substance or water.
- ***Inventory Controls*** - techniques used to identify a loss of product that are based on volumetric measurements in the tank and reconciliation of those measurements with product delivery and withdrawal records.
- ***Liquid*** - a substance that is neither solid nor gas at standard conditions of temperature, 60 °F, and pressure, 14.7 psia.
- ***Liquid Trap*** - sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations including gas production plants, for the purpose of collecting oil, waster and other liquids. The liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.
- ***Listed*** - equipment or materials to which has been attached a label, symbol or other identifying mark of an organization acceptable to the Department and concerned with product evaluation, that maintains periodic inspections of production of labeled equipment or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.
- ***Maintenance*** - the normal operational upkeep to prevent a UST system from releasing product.
- ***Motor Fuel*** - petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, and is typically used in the operation of a motor engine.
- ***New Tank System*** - a tank system that will be used to contain an accumulation of regulated substances and for which installation has commenced after 1 May 1991.
- ***Noncommercial Purposes*** - with respect to motor fuel means not for resale.
- ***On the Premises Where Stored*** - with respect to heating oil means storage tank systems located on the same property, or contiguous property of the same owner, where the stored heating oil is used.
- ***Operational Life*** - the period beginning when installation of the tank system has commenced until the time the tank system is properly closed.
- ***Operator*** - any person in control of, or having responsibility for, the daily operation of the UST system.

- *Overfill Release* - a release that occurs when a tank is filled beyond its capacity, resulting in a discharge of the regulated substance to the environment.
- *Owner* -
 - in the case of a UST system in use on 8 November 1984, or brought into use after that date, any person who owns all or a portion of a UST system used for storage, use, dispensing of regulated substances or the person owning the property on which the UST system is located
 - in the case of any UST system not in use, any person who owned all or a portion of the UST system immediately prior to the discontinuation of its use, or the person owning the property on which the UST system is located.
- *Partially Exempt Tanks* - farm and residential USTs of 1100 gal or less capacity used for storing motor fuel for noncommercial purposes and USTs used for storing heating oil for consumptive use on the premises where stored.
- *Person* - an individual, trust, firm, joint stock company, Federal agency, corporation, state, municipality, commission, political subdivision of a state, or any interstate body; also includes a consortium, a joint venture, a commercial entity, and the U.S. Government.
- *Petroleum* - crude oil, crude oil fractions, and refined petroleum fractions, including gasoline, kerosene, heating oils and diesel fuels.
- *Petroleum Underground Storage Tank System* - a UST system that contains petroleum or a mixture of petroleum with insignificant quantities of other regulated substances. Such systems include those containing motor fuels, jet fuels, distillate fuel oils, residual fuel oils, lubricants, petroleum solvents, and used oils.
- *Pipe or Piping* - a hollow cylinder or tubular conduit that is constructed of nonearthen materials.
- *Pipeline Facilities* - includes gathering lines, means new and existing pipe rights-of-way and any equipment, facilities, or buildings.
- *Product* - a substance stored in an underground or aboveground storage tank (AST).
- *Regulated Substance* - any flammable or combustible liquid. Any substance defined in section 101 (14) of CERCLA, excluding any substance regulated as a hazardous waste under subtitle C, that is a flammable or combustible liquid, is a regulated substance.
- *Release* - any discharge, including spilling, leaking, pumping, pouring, emitting, emptying, leaching, dumping or disposal of a flammable or combustible liquid into groundwater, surface water or subsurface soils.
- *Release Detection* - determining whether a release of regulated substance has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or secondary containment around it.
- *Repair* - to restore a tank or storage tank system component that has caused a release or may cause a release of product from the UST system.

- **Residential Tank** - a tank located on the same property as a one- or two-family dwelling or on the same property as a residential building that falls under the scope of Chapter ILHR 57 and used only by the residents of the property or for the maintenance of the property. This includes apartment buildings, garden apartments, row houses, townhouses, condominiums, hotels, motels, rooming houses, dormitories, convents, monasteries, homes for the aged, sheltered facilities for battered women and community based residential facilities.
- **Secondary Containment** - a system installed around an UST that is designed to prevent a release from migrating beyond the secondary containment system outer wall in the case of a double-walled tank system or excavation area in the case of a liner or vault system before the release can be detected. Such a system may include, but is not limited to, impervious natural and synthetic liners, double-walls or vaults.
- **Septic Tank** - a watertight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such receptacle is distributed for disposal through the soil. Settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.
- **Stormwater or Wastewater Collection System** - piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water runoff resulting from precipitation, or domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of stormwater and wastewater does not include treatment except where incidental to conveyance.
- **Surface Impoundment** - a natural topographic depression, disked area, or manmade excavation other than an injection well formed primarily of earthen materials, although it may be lined with manmade materials.
- **Tank** - a stationary device designed to contain an accumulation of regulated substances and constructed of nonearthen materials, such as concrete, steel or plastic, that provide structural support.
- **Tank System** - a tank, connected piping, ancillary equipment and containment system, if any.
- **Tightness Testing** - a procedure for testing the ability of a tank system to prevent an inadvertent release of any stored substance into the environment or, in the case of a UST system, intrusion of groundwater into a tank system.
- **Underground Area** - an underground room, such as a basement, cellar, shaft or vault, providing enough space for physical inspection of the exterior of the tank situated on or above the surface of the floor.
- **Underground Storage Tank or UST** - any one or combination of tanks, including connected pipes, that is used to contain an accumulation of regulated substances, and the volume of which, including the volume of connected underground pipes, is 10 percent or more beneath the surface of the ground. The term does not include any of the following or pipes connected to any of the following:
 - septic tank
 - pipeline facility, including gathering lines:
 - regulated under the *Natural Gas Pipeline Safety Act of 1968*
 - regulated under the *Hazardous Liquid Pipeline Safety Act of 1979*
 - which is an intrastate pipeline facility regulated under state laws comparable to the provisions of the law referred to above
 - surface impoundment, pit, pond, or lagoon
 - stormwater or wastewater collection system

- flow-through process tank
 - liquid trap or associated gathering lines directly related to oil or gas production and gathering operations
 - storage tank situated in an underground area, such as but not limited to a basement, cellar, mine-working, drift, shaft, or tunnel, if the storage tank is situated upon or above the surface of the floor.
- *Underground Storage Tank System or UST System* - a UST, connected piping, underground ancillary equipment, and containment system, if any.
 - *Unsaturated Zone* - the subsurface zone containing water under pressure less than that of the atmosphere, including water held by capillary forces within the soil and containing air or gases generally under atmospheric pressure. This zone is limited by the ground surface and below by the upper surface of the zone of saturation or the water table.
 - *Upgrade* - the addition or retrofit of some systems such as cathodic protection of tanks or piping, lining, or spill and overfill controls to improve the ability of a UST system to prevent the release of product.
 - *Wastewater Treatment Tank* - a tank that is designed to receive and treat an influent wastewater through physical, chemical, or biological means.

RESOURCE CONSERVATION AND RECOVERY ACT, SUBTITLE I (RCRA-I)

GUIDANCE FOR WISCONSIN CHECKLIST USERS

| Applicability: | Refer to Checklist Items: |
|---|--------------------------------------|
| Approval of Tanks | 6-1 through 6-3 |
| Permits | 6-4 |
| USTs Siting | 6-5 |
| USTs and Groundwater Protection | 6-6 and 6-7 |
| Design, Construction, Installation, and Notification | 6-8 through 6-13 |
| General Operating Requirements | 6-14 through 6-17 |
| Release Detection | 6-18 through 6-25 |
| Suspected Releases | 6-26 and 6-27 |
| Emergency Release Response | 6-28 |
| Out-of-Service UST Systems, Closure, and Site Assessment | 6-29 through 6-33 |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>APPROVAL OF TANKS</p> <p>6-1. Construction, installation and operation of an AST or UST requires approval from the Department (ILHR 10.10 (1), (2)(a), (3)(a), and 10.18 (2)(a) 2. a.).</p> <p>6-2. Revision of a plan to construct an AST or a UST must be approved by the Department (ILHR 10.105).</p> | <p>Verify that plan review and written approval from the Department or its authorized deputy is obtained before:</p> <ul style="list-style-type: none"> - commencing any construction of new or additional aboveground or underground tank installation or piping installation - change in operation of an installation from storage, handling, or use of flammable or combustible liquids - addition of vapor or groundwater monitoring wells - addition of leak detection - addition of spill or overfill protection - tank lining - conversion of general service stations to self-service stations - conversion to the use of key, card, or code operated dispensing devices. <p>Verify that plans for installation in which all tanks for the storage, handling or use of flammable or combustible liquids have an individual capacity of 5000 gal or less are submitted for review and approved in writing by the chief of the local fire department or other authorized agent.</p> <p>Verify that the plans for compliance with these groundwater protection requirements are reviewed by a certified inspector.</p> <p>Verify that installations in which one or more tanks for storage, handling or use of flammable or combustible liquid have capacity of 5000 gal or more are approved by the Department.</p> <p>Verify that any change in the initial installation that deviates from original approved or conditionally approved plans is submitted for review as a revision, including:</p> <ul style="list-style-type: none"> - changes in tank placement - changes in size of tank - changes in length of piping run - changes in monitoring equipment. <p>(NOTE: Additions or modifications to systems after the closing of excavation and commencement of system operation are submitted for review as a new installation.)</p> |

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| <p>6-3. Materials, equipment and devices for ASTs and USTs must be approved by the Department (ILHR 10.125 (1)).</p> | <p>Verify that specific approval is obtained from the Department for the following materials, equipment, devices and methods:</p> <ul style="list-style-type: none"> - the following leak detection devices <ul style="list-style-type: none"> - volumetric tank tightness testing devices - nonvolumetric tank tightness testing devices - automatic tank gauging systems - liquid phase out-of-tank product detectors - statistical inventory reconciliation methods - pipeline leak detection systems - liners for dikes, except asphalt and concrete liners that are for impoundments around outside ASTs and are 25 percent larger than required by National Fire Protection Association (NFPA) Standard 30 - flex connectors - any material, equipment or device not submitted for review and approval for a specific installation via the plan approval process above. |
| <p>REGISTRATION</p> <p>6-4. Installations must register USTs (ILHR 10.13 (1) (a) 1, 10.14 (1) (a) 1, (b) 4 and 5, 10.15 (1) (a) 1, 2, and 4).</p> | <p>Verify that all new and replacement USTs installed on or after 1 May 1991, are registered with the Department at installation.</p> <p>Verify that the following changes are registered with the Department within 10 days of the change:</p> <ul style="list-style-type: none"> - existing storage tanks previously used to store a nonregulated substance undergoing a change to store a regulated substance - a change of ownership - a change of the name of the facility - a change of the installation's mailing address. <p>Verify that an existing tank system that undergoes any of the following changes registers the change within 10 days of the change:</p> <ul style="list-style-type: none"> - a change in service - permanent or temporary closure - a change in service or permanent close of a temporarily closed tank - the addition of release detection, spill or overfill control or corrosion protection of any part of the system - tank lining. <p>Verify that all permanently closed or removed USTs were registered with the Department on 1 May 1991.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| 6-4. (continued) <p>PERMITS</p> <p>6-5. Installations must hold a permit to use USTs (ILHR 10.16 (1)).</p> <p>USTS SITING</p> <p>6-6. Installations must site new and replacement USTs separate from water wells and reservoirs (ILHR 10.342).</p> | <p>Verify that storage tanks that are permanently closed or removed after 1 May 1991, are registered with the Department within 15 business days of permanent closure or removal.</p> <p>Verify that storage tanks that are discovered after 1 May 1991, are registered with the Department within 15 business days of discovery.</p> <p>Verify that the installation holds a UST use permit.</p> <p>Verify that all USTs that were in use after 1 May 1991, and were installed before 1983, after 1 May 1991, or have an unknown installation date, except partially exempt tanks, have been issued a use permit from the Department.</p> <p>Verify that all USTs that are in use, and were installed between 1983 and 1 May 1991, except partially exempt tanks, have been issued a use permit from the Department by 1 May 1994.</p> <p>Verify that all new and replacement USTs associated with bulk surface storage tanks with a capacity greater than 1500 gal or any bulk buried storage tank and associated buried piping are 100 feet (ft) from a well or reservoir.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>USTs AND GROUNDWATER PROTECTION</p> <p>6-7. Specific types of USTs are exempt or partially exempt from the following requirements (ILHR 10.50).</p> | <p>Determine if the installation has any of the following UST systems, which are exempt from the following requirements:</p> <ul style="list-style-type: none"> - any UST system holding hazardous wastes listed or identified under Subtitle C of the <i>Solid Waste Disposal Act</i>, or a mixture of such hazardous waste and other regulated substances - any wastewater treatment tank system that is part of a wastewater treatment facility regulated under Section 402 or 307(b) of the <i>Clean Water Act</i> - equipment or machinery that contains regulated substances for operational purposes such as hydraulic lift tanks and electrical equipment tanks - any emergency spill or overflow containment UST system that is expeditiously emptied after use - any farm or residential UST system of 1100 gal or less capacity used for storing motor fuel for noncommercial purposes - any UST system used for storing heating oil for consumptive use on the premises where stored. <p>Determine if the installation has any of the following types of UST systems, which are Partially Exempt:</p> <ul style="list-style-type: none"> - wastewater treatment tank systems - any UST system containing radioactive material this is regulated under the <i>Atomic Energy Act of 1954</i> (42 U.S. Code (USC) 2011 and following) - any UST system that is part of an emergency generator system at nuclear power generation facilities regulated by the Nuclear Regulatory Commission under 10 CFR 50 Appendix A - all portions of airport hydrant fuel distribution systems except for the USTs included in those systems - UST systems with field-constructed tanks. <p>Installation of USTs must meet specific requirements (ILHR 10.505).</p> <p>Verify that a Partially Exempt UST system installed for storing regulated substances:</p> <ul style="list-style-type: none"> - will prevent releases due to corrosion or structural failure for the operational life of the UST system - is cathodically protected against corrosion, constructed of noncorrodible material, steel clad with a noncorrodible material, or designed in a manner to prevent the release or threatened release of any stored substance - is constructed or lined with material that is compatible with the stored substance. |

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| <p>6-7. (continued)</p> <p>DESIGN, CONSTRUCTION, INSTALLATION, AND NOTIFICATION</p> <p>6-8. The tanks of new UST systems,(those installed after 22 December 1988), must meet specific design and construction criteria (ILHR 10.51 (1)).</p> | <p>(NOTE: A UST system without corrosion protection may be installed at a site that is determined by a corrosion expert not to be corrosive enough to cause it to have a release due to corrosion during its operating life. Operators must maintain records that demonstrate compliance with this requirement for the remaining life of the tank.)</p> <p>(NOTE: Partially exempt USTs are exempt from the requirements of this section.)</p> <p>(NOTE: The operational life of any component of a UST system assumed for design purposes may not be less than the warranty period for that component.)</p> <p>Verify that each tank is properly designed and constructed, and any portion in contact with the ground that routinely contains product is protected from corrosion, in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below.</p> <p>Verify that tanks constructed of fiberglass-reinforced plastic meet the standards of a nationally recognized association or independent testing laboratory.</p> <p>Verify that tanks constructed of steel are cathodically protected in the following manner:</p> <ul style="list-style-type: none"> - the tank is coated with a suitable dielectric material - field-installed cathodic protection systems are designed by a corrosion expert - impressed current systems are designed to allow determination of current operating status and are inspected every 60 days to ensure the equipment is running properly - the tank meets the standards of a nationally recognized association or independent testing laboratory. <p>Verify that tanks constructed of a steel-fiberglass-reinforced-plastic composite meet the standards of a nationally recognized association or independent testing laboratory.</p> <p>Verify that if the tank has been previously used, then it has been upgraded and certified by the manufacturer as meeting the appropriate standards specified in this subsection.</p> |
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| <p>6-9. The piping of new UST systems, (those installed after 22 December 1988), must meet specific design and construction requirements (ILHR 10.51 (2)).</p> <p>6-10. The manways of new UST systems must meet specific requirements (ILHR 10.51 (2M)).</p> | <p>Verify that the piping that routinely contains regulated substances and is in contact with the ground is properly designed, constructed, and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below:</p> <ul style="list-style-type: none"> - the piping is constructed of fiberglass-reinforced plastic - the piping is constructed of steel and cathodically protected - the piping is constructed of metal without additional corrosion protection measures - the piping construction and corrosion protection are approved by the Department - flex connectors are used in place of swing joints at the following locations: <ul style="list-style-type: none"> - at the top of the tank - between the tank and the vent pipe - below the dispenser - in fiberglass pipe where there is less than 4 ft between turns. <p>Verify that, if the piping is constructed of fiberglass-reinforced plastic, the piping meets the standards of a nationally recognized association or independent testing laboratory.</p> <p>Verify that, if the piping is constructed of steel and cathodically protected, the cathodic protection is implemented in the following manner:</p> <ul style="list-style-type: none"> - the piping is coated with a suitable dielectric material - field-installed cathodic protection systems are designed by a corrosion expert - impressed current systems are designed to allow determination of current operating status by inspection every 60 days - the piping meets the standards of a nationally recognized association or independent testing laboratory. <p>Verify that, if the piping is constructed of metal without additional corrosion protection measures provided, the following requirements are met:</p> <ul style="list-style-type: none"> - the piping is installed at a site that is determined by a corrosion expert to not be corrosive enough to cause it to have a release due to corrosion during its operational life - the installation maintains records that demonstrate compliance with the above requirements for the remaining life of the piping - the piping meets the standards of a nationally recognized association or independent testing laboratory. <p>Verify that all new and UST systems are provided with a passageway to provide access to connections between all piping, venting, and the tank.</p> <p>Verify that the access passageway is of sufficient size to allow access, maintenance, service, disconnection, and connection of system appurtenances.</p> |

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| <p>6-11. The spill and overfill prevention equipment of new UST systems, (those installed after 22 December 1988), must meet specific requirements (ILHR 10.51 (3)).</p> | <p>Verify that spill prevention equipment that will prevent release of product to the environment when the transfer hose is detached from the fill pipe, such as a spill catchment basin, is installed.</p> <p>Verify that overfill protection equipment that will do at least one of the following is installed:</p> <ul style="list-style-type: none"> - restrict the flow 30 min prior to overfilling - alert the operator with a high level alarm 1 min before overfilling - automatically shut off flow into the tank so that none of the fittings located on top of the tank are exposed to product due to overfilling. <p>(NOTE: Operators are not required to use the spill and overfill prevention equipment specified above if either of the below are true: - alternative equipment is approved by the Department - the UST system is filled by transfers of no more than 25 gal at one time.)</p> |
| <p>6-12. The installation of new UST systems must meet specific requirements (ILHR 10.51 (4) and (5)).</p> | <p>Verify that all tanks and piping is installed by a certified installer according to the manufacturer's instructions and meets the requirements of a nationally recognized association or independent testing laboratory.</p> <p>Verify that tanks are subjected to air pressure and soap test after unloading.</p> <p>Verify that tanks that have leak detection provided through inventory control and tightness testing, groundwater or vapor monitoring are tightness tested by a certified tightness tester before the tanks are placed in service.</p> <p>Verify that tanks that have leak detection provided by interstitial monitoring or electronic tank gauging have the leak detection system certified as operable prior to placing the tanks in service.</p> <p>Verify that piping is shown to be leak free by testing prior to backfilling and after backfilling.</p> <p>Verify that pressure piping, or suction piping with a check valve located at the tank, passes a tightness test prior to placing the piping in service.</p> <p>(NOTE: If a leak detector is installed on the piping that can detect a 0.2 gal/h leak rate or a release of 150 gal within a month with a probability of detection of 0.95 and a probability of false alarm of 0.05, the tightness test may be omitted.)</p> <p>(NOTE: The Department may approve another method if the installation can demonstrate that the method can detect a release as effectively as any of the methods allowed above.)</p> <p>Verify that a Department certified inspector or installer certifies that the installation meets the law by providing a certification of compliance on the UST notification form.</p> |

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| <p>6-13. Installations must upgrade existing USTs (ILHR 10.52).</p> | <p>Verify that all existing UST systems meet one of the following requirements:</p> <ul style="list-style-type: none"> - the new UST system performance standards above for UST systems installed after 22 December 1988 - the upgrading requirements below - the closure requirements below for out-of-service UST systems, closure, and site assessment, and the applicable requirements for corrective action below under emergency release response. <p>(NOTE: Existing USTs of airport hydrant fuel distribution systems have until 1 May 2001 to meet the above.)</p> <p>Verify that steel tanks are upgraded to meet one of the following requirements in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory:</p> <ul style="list-style-type: none"> - interior lining - cathodic protection - internal lining combined with cathodic protection. <p>Verify that a tank that is upgraded by internal lining:</p> <ul style="list-style-type: none"> - has its interior lining installed by a certified tank liner, and the site is assessed - within 10 yr after lining, and every 5 yr thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications. <p>Verify that a tank that is upgraded by cathodic protection has a cathodic protection system that meets the requirements above for steel tanks installed after 22 December 1988, except that the tank does not need to be coated with a suitable dielectric material, and the integrity of the tank is ensured.</p> |

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| <p>6-13. (continued)</p> | <p>Verify that if the tank has been installed for less than 10 yr and is assessed for corrosion holes by conducting two tightness tests that meet the above requirements, then:</p> <ul style="list-style-type: none"> - the tests are performed by a certified UST system tightness tester - the first tightness test is conducted prior to installing the cathodic protection system - the second tightness test is conducted between 3 and 6 mo following the first operation of the cathodic protection system. <p>Verify that if a tank has been upgraded by internal lining combined with cathodic protection:</p> <ul style="list-style-type: none"> - the lining is installed by a certified liner in accordance with the applicable requirements of the section on repairs to tanks below and the site is assessed - the cathodic protection system meets the cathodic protection requirements above for steel tanks installed after 22 December 1988. <p>(NOTE: The tank does not need to be coated with a suitable dielectric material.)</p> <p>Verify that metal piping that routinely contains regulated substances and is in contact with the ground is cathodically protected in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and meets the cathodic protection requirements above for steel piping installed after 22 December 1988.</p> <p>(NOTE: The piping does not need to be coated with a suitable dielectric material.)</p> <p>Verify that the requirements for piping of UST systems installed after 22 December 1988, are used to meet the above requirements.</p> <p>Verify that the system upgrade is designed by a corrosion expert.</p> <p>Verify that all existing UST systems meet spill and overfill prevention equipment requirements above for UST systems installed after 22 December 1988.</p> |

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| <p>GENERAL OPERATING REQUIREMENTS</p> <p>6-14. Spill and overfill control equipment must meet specific requirements (ILHR 10.54).</p> <p>6-15. Installations must operate and maintain corrosion protection equipment according to specific requirements (ILHR 10.55 and 10.56).</p> | <p>(NOTE: Partially exempt USTs are exempt from the following requirements.)</p> <p>Verify that the installation ensures that the volume available in the tank is greater than the volume of product to be transferred to the tank before the transfer is made and that the transfer operation is monitored constantly to prevent overfilling and spilling.</p> <p>Verify that the installation reports, investigates and cleans up any spills and overfills.</p> <p>Verify that all corrosion protection systems are operated and maintained to continuously provide corrosion protection to the metal components of that portion of the tank and piping that routinely contain regulated substances and are in contact with the ground.</p> <p>Verify that all cathodic protection systems are tested by a cathodic protection tester within 6 mo of installation and at least every 3 yr thereafter.</p> <p>Verify that the criteria that are used to determine that cathodic protection is adequate are in accordance with the National Association of Corrosion Engineers (NACE) Standard RP-02-85, <i>Control of External Corrosion on Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems</i>.</p> <p>Verify that UST systems with impressed current cathodic protection systems are inspected every 60 days to ensure the equipment is running properly.</p> <p>Verify that for UST systems using corrosion protection, records of the operation of the cathodic protection are maintained to demonstrate compliance with the above requirements, including:</p> <ul style="list-style-type: none"> - the results of the last three impressed current requirement inspections - the results of testing from the last two cathodic protection requirement inspections. <p>Verify that the installation uses a UST system made of or lined with materials that are compatible with the substance stored in the UST system.</p> |

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| <p>6-16. Repairs to UST systems must meet specific requirements (ILHR 10.57).</p> | <p>Verify that repairs will prevent releases due to structural failure or corrosion as long as the UST system is used to store regulated substances.</p> <p>Verify that repairs meet the following standards of a nationally recognized association or independent testing laboratory.</p> <p>Verify that repairs to fiberglass-reinforced plastic tanks are made by the manufacturer's authorized representative or in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.</p> <p>Verify that metal pipe sections and fittings that have released product as a result of corrosion or other damage are replaced.</p> <p>(NOTE: Fiberglass pipes and fittings may be repaired in accordance with the manufacturer's specifications.)</p> <p>Verify that a site assessment of the piping run is performed when repairs are made to the piping or fittings to correct a breach in the integrity of the system.</p> <p>Verify that repaired tanks and piping are tightness tested within 30 days following the date of the completion of the repair.</p> <p>Verify that the repaired tank is internally inspected in accordance with a code of practice developed by a nationally recognized association or an independent testing laboratory.</p> <p>Verify that the repaired or replaced portion of the UST system is monitored monthly for release by one of the following methods:</p> <ul style="list-style-type: none"> - automatic tank gauging - vapor monitoring - groundwater monitoring - interstitial monitoring - other approved methods. <p>Verify that within 6 mo following the repair of any cathodically protected UST system, the cathodic protection system is tested in accordance with the cathodic protection requirement and the impressed current requirement above to ensure that it is operating properly.</p> <p>Verify that records of each UST system repair are maintained for the remaining operating life of the UST system that demonstrate compliance with all of the above requirements.</p> |

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| <p>6-17. Installations must report all releases and major changes in UST systems to Department (ILHR 10.58).</p> | <p>Verify that the installation submits to the Department notification for all UST systems, which includes certification of installation for new UST systems within 30 days of installation, and a notification before permanent closure or change-in-service.</p> <p>Verify that the installation submits to the Department of Natural Resources reports of all releases including suspected releases, spills and overfills, and confirmed releases, and corrective actions planned or taken including initial abatement measures, initial site characterization, free product removal, investigation of soil and groundwater cleanup, and corrective action plan.</p> <p>Verify that the installation maintains the following information:</p> <ul style="list-style-type: none"> - a corrosion expert's analysis of site corrosion potential if corrosion protection equipment is not used - documentation of operation of corrosion protection equipment - documentation of UST system repairs - compliance with release detection requirements - results of the site investigation conducted at permanent closure. <p>Verify that the installation keeps the required records immediately available to the Department for inspection at the UST site.</p> |

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| RELEASE DETECTION 6-18. UST systems must meet specific release detection requirements (ILHR 10.59). | <p>(NOTE: Partially exempt USTs are exempt from the requirements of this section.)</p> <p>Verify that installations with new and existing UST systems provide a method of release detection that meets the following requirements:</p> <ul style="list-style-type: none"> - can detect a release from any portion of the tank and the connected underground piping that would routinely contain product if the tank were 95 percent full - is installed, calibrated, operated, and maintained in accordance with the manufacturer's instructions, including routine maintenance and service checks for operability or running condition. <p>Verify that manufacturers of leak detection methods specify what threshold test result obtained with their test methods indicates a release may have occurred.</p> <p>Verify that installations with UST systems installed prior to 1980 or after 1988 meet the release detection requirements of this section.</p> <p>Verify that installations with UST systems installed between 1980 and 1988 meet the release detection requirements of this section by 22 December 1993.</p> <p>Verify that installations with UST systems meet the pressurized piping requirements of this section.</p> <p>Verify that installations with airport hydrant fuel distribution systems and UST systems that store fuel solely for use by emergency power generators installed before 1974 or after 1 May 1991 meet the release detection requirements of this section.</p> <p>Verify that installations with airport hydrant fuel distribution systems and UST systems that store fuel solely for use by emergency power generators installed between 1975 and 1979 meet the release detection requirements of this section by 1 May 1994.</p> <p>Verify that installations with airport hydrant fuel distribution systems and UST systems that store fuel solely for use by emergency power generators installed between 1980 and 1 May 1991 meet the release detection requirements of this section by 1 May 1995.</p> <p>Verify that installations with airport hydrant fuel distribution systems and UST systems that store fuel solely for use by emergency power generators meet the release detection requirements of this section now.</p> <p>Verify that any existing UST system that cannot apply a method of release detection that meets these requirements completes the closure procedures below by the release detection date above.</p> |

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| <p>6-19. Release detection must be provided for new and replacement UST systems (ILHR 10.60).</p> | <p>Verify that tanks are monitored at least every 30 days for releases using one of the methods listed below:</p> <ul style="list-style-type: none"> - automatic tank gauging - vapor monitoring - groundwater monitoring - interstitial monitoring - other approved methods. <p>(NOTE: UST systems that meet the performance standards for design, construction, installation and notification, inventory control, and manual tank gauging, may use the tank tightness testing methods below at least every 5 yr until 22 December 1998, or until 10 yr after the tank is installed or upgraded under the requirements for steel tank upgrading, whichever is later.</p> <p>(NOTE: UST systems that do not meet the performance standards for UST systems installed after 22 December 1988, and the upgrading of existing UST systems may use monthly inventory controls conducted in accordance with both of the following:</p> <ul style="list-style-type: none"> - inventory control and manual tank gauging requirements - annual tank tightness testing until 22 December 1998, when the tank must be either upgraded under these requirements or permanently closed.) <p>(NOTE: Tanks with capacity 1000 gal or less may use weekly manual tank gauging.)</p> <p>(NOTE: Release detection systems for compartmentalized tanks are only required to be capable of detecting releases between compartments.)</p> <p>Verify that underground piping that routinely contains regulated substances is equipped with an automatic line leak detector, has an annual line tightness test or is monitored monthly.</p> <p>Verify that underground piping that conveys regulated substances under suction either is line tightness tested at least every 3 yr, or uses one of the following monthly monitoring methods:</p> <ul style="list-style-type: none"> - automatic tank gauging - vapor monitoring - groundwater monitoring - interstitial monitoring - other approved methods. |

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| 6-19. (continued) | <p>(NOTE: No release detection is required for suction piping that is designed and constructed to meet the following standards:</p> <ul style="list-style-type: none"> - below grade piping operates at less than atmospheric pressure - below grade piping is sloped so that the contents of the pipe will drain back into the storage tank if the suction is released - only one check valve is included in each suction line - the check valve is located directly below and as close as practical to the suction pump - a method is provided that allows compliance with the above three points to be readily determined.) |
| 6-20. Hazardous substance UST systems must meet specific requirements (ILHR 10.605). | <p>Verify that release detection at existing UST systems meets the requirements for petroleum UST systems above.</p> <p>Verify that by 22 December 1998, all existing hazardous substance UST systems meet the release detection requirements for new systems below.</p> <p>Verify that release detection at new hazardous substance UST systems includes secondary containment systems that are designed, constructed and installed to meet the following requirements:</p> <ul style="list-style-type: none"> - contain regulated substances released from the tank system until they are detected and removed - prevent the release of regulated substances to the environment at any time during the operational life of the UST system - are checked for evidence of a release at least every 30 days. <p>Verify that release detection at new hazardous substance UST systems includes double-walled tanks that are designed, constructed, and installed to contain a release from any portion of the inner tank within the outer wall and detect the failure of the inner or exterior wall.</p> |

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| 6-20. (continued) | <p>Verify that release detection at new hazardous substance UST systems includes external liners, including vaults, that are designed, constructed, and installed to:</p> <ul style="list-style-type: none"> - contain 100 percent of the capacity of the largest tank within its boundary - prevent the interference of precipitation or groundwater intrusion with the ability to contain or detect a release of regulated substances - surround the tank completely and be capable of preventing lateral as well as vertical migration of regulated substances. <p>Verify that release detection at new hazardous substance UST systems includes underground piping that is equipped with secondary containment that satisfies the requirements above for secondary containment systems, such as trench liners and jacketing of double-walled pipe.</p> <p>Verify that underground piping that conveys regulated substances under pressure is equipped with an automatic line leak detector.</p> <p>(NOTE: Other methods of release detection may be used if the installation obtains approval from the Department to use the alternate release detection method before the installation and operation of the new UST system.)</p> |

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| <p>6-21. Tank gauging methods of release detection must meet specific requirements (ILHR 10.61 (2) and (4)).</p> | <p>Verify that all automatic tank gauging systems are evaluated in accordance with the appropriate USEPA standard test procedure for evaluating leak detection methods and are approved by the Department.</p> <p>Verify that equipment for automatic tank gauging that tests for the loss of product and conducts inventory control meets the following requirements:</p> <ul style="list-style-type: none"> - the automatic product level monitor test can detect a 0.2 gal/h leak rate from any portion of the tank that routinely contains product with a probability of detection of 0.95 and probability of false alarm of 0.05 - inventory control, or another test of equivalent performance, is conducted in accordance with the requirements above for inventory control - the system is certified as operable prior to being placed in service. <p>Verify that manual tank gauging meets the following requirements:</p> <ul style="list-style-type: none"> - tank liquid level measurements are taken at the beginning and ending of a period of at least 36 h during which no liquid is added to or removed from the tank - level measurements are based on an average of two consecutive stick readings taken at both the beginning and ending of the period - the equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an in. - a leak is suspected and subject to the requirements for suspected release investigation and confirmation if the variation between beginning and ending measurements exceeds the weekly or monthly standards in the following table: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 30%;">Nominal Tank Capacity</th> <th style="text-align: left; width: 30%;">Weekly Standard (one test)</th> <th style="text-align: left; width: 30%;">Monthly Standard (average of four tests)</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">550 gal or less</td> <td style="text-align: left;">10 gal</td> <td style="text-align: left;">5 gal</td> </tr> <tr> <td style="text-align: left;">551-1000 gal</td> <td style="text-align: left;">13 gal</td> <td style="text-align: left;">7 gal</td> </tr> <tr> <td style="text-align: left;">1001-2000 gal</td> <td style="text-align: left;">26 gal</td> <td style="text-align: left;">13 gal</td> </tr> </tbody> </table> <p>(NOTE: Only tanks of 1000 gal or less nominal capacity may use manual tank gauging as the sole method of release detection. Tanks of 1001 to 2000 gal may use manual tank gauging in place of manual inventory control above in product inventory control. Tanks of greater than 2000 gal nominal capacity may not use manual tank gauging to meet the leak detection requirements above.)</p> | Nominal Tank Capacity | Weekly Standard (one test) | Monthly Standard (average of four tests) | 550 gal or less | 10 gal | 5 gal | 551-1000 gal | 13 gal | 7 gal | 1001-2000 gal | 26 gal | 13 gal |
| Nominal Tank Capacity | Weekly Standard (one test) | Monthly Standard (average of four tests) | | | | | | | | | | | |
| 550 gal or less | 10 gal | 5 gal | | | | | | | | | | | |
| 551-1000 gal | 13 gal | 7 gal | | | | | | | | | | | |
| 1001-2000 gal | 26 gal | 13 gal | | | | | | | | | | | |

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| <p>6-22. Tank monitoring methods of release detection must meet specific requirements (ILHR 10.61 (5) through (7)).</p> | <p>Verify that all liquid-phase out-of-tank product detectors and vapor-phase out-of-tank product detectors are evaluated in accordance with the appropriate USEPA standard test procedure for evaluating leak detection methods and are approved by the Department.</p> <p>Verify that testing or monitoring for vapors in the soil or gas of the excavation zone meets the following requirements:</p> <ul style="list-style-type: none"> - the materials used as backfill are sufficiently porous, such as gravel, sand and crushed rock, to readily allow diffusion of vapors from releases into the excavation area - the stored regulated substance, or a tracer compound placed in the tank system, is sufficiently volatile, such as gasoline, to result in a vapor level that is detectable by the monitoring devices located in the excavation zone in the event of a release from the tank - the measurement of vapors by the monitoring device is not rendered inoperative by the groundwater, rainfall, or soil moisture or other known interferences so that a release could go undetected for more than 30 days - the level of background contamination in the excavation zone will not interfere with the method used to detect releases from the tank - the vapor monitors are designed and operated to detect any significant increase in concentration above background of the regulated substance stored in the tank system, a component or components of that substance, or a tracer compound placed in the tank system - an assessment is made of the excavation zone to determine the presence of existing soil contamination including free product, absorbed product, and vapors - the monitoring wells are placed in the backfill around the tanks and piping - all portions of the tank bed are within a 25-ft radius of a monitoring well - one monitoring well is located at the lowest point within the tank bed - all portions of piping are within the 25-ft detection radius of a vapor monitoring well - monitoring wells are clearly marked and secured to avoid unauthorized access and tampering - a tightness test of the tanks and piping is conducted in accordance with the above requirements for tightness testing prior to placing tanks in service. |

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| 6-22. (continued) | <p>Verify that testing or monitoring for liquids in the groundwater meets the following requirements:</p> <ul style="list-style-type: none"> - the regulated substance stored is immiscible in water and has a specific gravity of less than one - groundwater is never more than 20 ft from the ground surface and the hydraulic conductivity of the soil between the UST system and the monitoring wells or devices is not less than 0.01 cm/s - groundwater monitoring wells meet the construction requirements of NR 141 - monitoring wells or devices intercept the excavation zone or are as close to it as is technically feasible - the continuous monitoring devices or manual methods used can detect the presence of at least one-eighth of an inch of free product on top of the groundwater in the monitoring wells - within and immediately below the UST system excavation zone, the site is assessed to ensure compliance with the requirements above and to establish the number and positioning of monitoring wells or devices that will detect releases from any portion of the tank that routinely contains product, including: <ul style="list-style-type: none"> - soil layering and classification of each soil layer capable of affecting product flow - effective porosity of saturated and unsaturated zone - current depth to water table and the extent of seasonal fluctuations in the water table as evidenced by soil gleying or mottling, nearby monitoring wells, or regional water table information - presence of utility trenches or other natural or manmade features capable of influencing product movement - existing soil contamination including free product, absorbed product, and vapors - groundwater flow directions and method of determination - monitoring wells are clearly marked and secured to avoid unauthorized access and tampering - a tightness test is conducted in accordance with the above requirements for the tank and piping prior to placing the tank in service. <p>(NOTE: Approval for the use of unsaturated zone monitoring is considered by the Department on a case-by-case basis.)</p> |

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| 6-22. (continued) | <p>Verify that if interstitial monitoring between the UST system and a secondary barrier immediately around or beneath it is used, the system is designed, constructed and installed to detect a leak from any portion of the tank that routinely contains product and also meets one of the following requirements:</p> <ul style="list-style-type: none"> - for double-walled UST systems, the sampling or testing method can detect a release through the inner wall in any portion of the tank that routinely contains product - for UST systems with a secondary barrier within the excavation zone, the sampling or testing method used can detect a release between the UST system and the secondary barrier and detection system is constructed as follows: <ul style="list-style-type: none"> - the secondary barrier around or beneath the UST system consists of artificially constructed material that is sufficiently thick and impermeable, at least 10^{-6} cm/s for the regulated substance stored, to direct a release to the monitoring point and permit its detection - the barrier is compatible with the regulated substance stored so that a release from the UST system will not cause a deterioration of the barrier allowing a release to pass through undetected - for cathodically protected tanks, the secondary barrier is installed so that it does not interfere with the proper operation of the cathodic protection system - the groundwater, soil moisture, or rainfall will not render the testing or sampling method used inoperative so that a release could go undetected for more than 30 days - the site is assessed to ensure that the secondary barrier is always above the groundwater and not in a 25 yr flood plain, unless the barrier and the monitoring designs are for use under such conditions - monitoring wells are clearly marked and secured to avoid unauthorized access and tampering - for tanks with an internally fitted liner, an automated device can detect a release between the inner wall of the tank and the liner, and the liner is compatible with the substance stored - the monitoring system is certified as operable prior to being placed in service. |

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| <p>6-23. Inventory control, tank tightness testing and other methods of release detection must meet specific requirements (ILHR 10.61 (1), (3) and (8)).</p> | <p>Verify that all volumetric tank tightness test methods, nonvolumetric tank tightness test methods, and statistical inventory reconciliation methods are evaluated in accordance with the appropriate USEPA standard test procedure for evaluating leak detection methods and are approved by the Department.</p> <p>Verify that product inventory control or another test of equivalent performance is conducted monthly and reconciled to detect a release of at least 1.0 percent of flow-through plus 130 gal on a monthly basis in the following manner:</p> <ul style="list-style-type: none"> - inventory volume measurements for regulated substance inputs, withdrawals, and the amount still remaining in the tank are recorded each operating day - the equipment used is capable of measuring the level of product over the full range of the tank's height to the nearest one-eighth of an inch - the regulated substance inputs are reconciled with delivery receipts by measurement of the tank inventory volume before and after delivery <p>(NOTE: Where blend pumps are used, reconciliation may address all tanks as a group rather than individual tanks.)</p> <ul style="list-style-type: none"> - deliveries are made through a drop tube that extends to within 1 ft of the tank bottom - product dispensing is metered and recorded within the local standards for meter calibration or an accuracy of 6 in.³ for every 5 gal of product withdrawn - the measurement of any water level in the bottom of the tank is made to the nearest one-eighth of an inch at least once a month. <p>Verify that tightness testing, or another test of equivalent performance, is capable of detecting a 0.1 gal/ h leak rate from any portion of the tank that routinely contains product when the tank is 95 percent full with a probability of detection of 0.95 and probability of false alarm of 0.05.</p> <p>Verify that the test methods are capable of detecting the minimum leak rate with the required probability of detection under false alarm, while accounting for the effects of thermal expansion or contraction of the product, vapor pockets, tank deformation, evaporation or condensation, and the location of the water table.</p> <p>Verify that tightness testing is conducted by a certified tightness tester.</p> <p>Verify that if another type of release detection method is used, it can detect a 0.2 gal/h leak rate or a release of 150 gal within a month with a probability of detection of 0.95 and a probability of false alarm of 0.05.</p> |

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| <p>6-24. Release detection methods for piping must meet specific standards (ILHR 10.615).</p> | <p>Verify that automatic line leak detectors that alert the operator to the presence of a leak by restricting or shutting off the flow of regulated substances through piping or triggering an audible or visual alarm are used only if they detect leaks of 3 gal/h at 10 psi line pressure within 1 h.</p> <p>Verify that an annual test of the leak detector is conducted in accordance with the manufacturer's requirements.</p> <p>Verify that a periodic test of piping is conducted only if it can detect a 0.1 gal/ h leak rate at one and one-half times the operating pressure with a probability of detection of 0.95 and a probability of false alarm of 0.05.</p> <p>Verify that the test is performed by a certified tightness tester.</p> <p>(NOTE: Where a leak detector is installed on piping that can detect a 0.2 gal/h leak rate or a release of 150 gal within a month with a probability of detection of 0.95 and a probability of false alarm of 0.05, the tightness test may be omitted.)</p> |
| <p>6-25. Installations must keep records of release detection equipment (ILHR 10.625).</p> | <p>Verify that all written performance claims pertaining to any release detection system used, and the manner in which these claims have been justified or tested by the equipment manufacturer or installer, are maintained for 10 yr from the date of installation.</p> <p>Verify that the results of any sampling, testing, or monitoring are maintained for at least 10 yr and the results of tightness testing are retained until the next two tests are conducted.</p> <p>Verify that written documentation of all calibration, maintenance, and repair of release detection equipment permanently located onsite are maintained for at least 1 yr after the servicing work is completed.</p> <p>Verify that any schedules of required calibration and maintenance provided by the release detection equipment manufacturer are retained for 10 yr from the date of installation.</p> |

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| <p>SUSPECTED RELEASES</p> <p>6-26. Installations must investigate suspected releases according to specific requirements (ILHR 10.63 (1) and (2), 10.635 (1) and (2)).</p> <p>6-27. Installations must report releases and take corrective action (ILHR 10.64 (1)).</p> | <p>Verify that a suspected release investigation is begun when the installation detects unusual operating conditions, such as:</p> <ul style="list-style-type: none"> - erratic behavior of product dispensing equipment - sudden loss of product from the tank system - an unexplained presence of water in the tank. <p>Verify that a suspected release investigation is begun when monitoring results required for petroleum product or hazardous substance UST systems indicate that a release may have occurred.</p> <p>Verify that the installation immediately investigates and confirms all suspected releases within 7 days of discovery, unless:</p> <ul style="list-style-type: none"> - system equipment or the monitoring device is found to be defective but not leaking and is immediately repaired, recalibrated or replaced and additional monitoring does not confirm the initial result - inventory control is the method of leak detection and a second month of data does not confirm the initial results - corrective action is initiated. <p>Verify that the installation performs a system test, a site check, or both at the direction of the Department.</p> <p>(NOTE: A system test means a tank tightness test and a line tightness test to determine whether a leak exists in those portions of the tank or of the delivery system that routinely contains product. A site check means that the installation measures for the presence of a release where contamination is most likely to be present at the tank site.)</p> <p>Verify that the installation immediately reports any release of a regulated substance to the Department of Natural Resources including the discovery of contaminated soils or free product, dissolved phase product or vapors in soils, basements, sewer or utility lines or surface or groundwaters at the tank site or in the surrounding area and spills or overfills.</p> <p>Verify that the installation investigates the extent of contamination and undertakes corrective action.</p> |

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| EMERGENCY RELEASE RESPONSE <p>6-28. Installations must take specific emergency response actions (ILHR 10.66 and 10.67).</p> | <p>Verify that upon confirmation and reporting of a release, installations identify, mitigate and monitor fire, explosion and vapor hazards such as the presence of free product or vapors in subsurface structures and handle all flammable products in a safe and competent manner to prevent fires or explosion.</p> <p>Verify that upon confirmation and reporting of a release, installations take action to prevent any further release of the regulated substance to the environment, including:</p> <ul style="list-style-type: none"> - removal of as much of the regulated substance from the tank system as is necessary to prevent further release to the environment - repair, replace, upgrade or permanently close the tank system if a leak exists - visually inspect the tank system and any area where a spill or overfill occurred - identify any free product and remove it to the maximum extent practicable so as to minimize the migration of contamination. <p>Verify that the removal is conducted in a manner that minimizes the spread of contamination and is appropriate for the hydrogeologic conditions at the site and that properly treats, discharges or disposes of recovered byproducts in compliance with all applicable Federal, state, and local requirements.</p> <p>Verify that the installation takes action to contain the release to prevent migration including managing any contaminated soils that are excavated or exposed.</p> <p>Verify that the installation measures for the presence of a release where contamination is most likely to be present at the UST site.</p> <p>Verify that upon confirmation of a release, the installation immediately reports the release to the Department of Natural Resources.</p> |

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| <p>OUT-OF-SERVICE UST SYSTEMS, CLOSURE, AND SITE ASSESSMENT</p> <p>6-29. Installations that temporarily close UST systems must meet specific safety requirements (ILHR 10.73).</p> <p>6-30. UST tanks that are not in use must be closed (ILHR 10.731).</p> | <p>Verify that when a UST system is temporarily closed, the installation continues operation and maintenance of corrosion protection equipment, and any release detection previously required.</p> <p>Verify that when a UST system is temporarily closed, the installation continues required release reporting and confirmation, except that release detection is not necessary if the UST system is empty.</p> <p>(NOTE: The UST system is empty when all materials have been removed using commonly employed practices so that no more than 1 in. of residue, or 0.3 percent by weight of the total capacity of the UST system, remain in the system.)</p> <p>Verify that when a UST system is temporarily closed for 3 mo or more, the installation leaves vent lines open and functioning, and caps and secures all other lines, pumps, manways, and ancillary equipment.</p> <p>Verify that any leak detection testing required during closure is performed prior to placing the tank back in service.</p> <p>Verify that when a UST system is temporarily closed for more than 12 mo, the installation permanently closes the UST system if it does not meet either performance standards for new UST systems or the upgrading requirements, except that the spill and overfill equipment requirements of the new UST system and upgrading requirements do not have to be met.</p> <p>Verify that the installation permanently closes substandard UST systems at the end of this 12 mo period unless the Department provides an extension of the 12 mo temporary closure period.</p> <p>Verify that installations close UST systems, except oil tanks used for emergency and backup fuel and overflow tanks, that are not in use.</p> <p>(NOTE: Motor fuel tanks are considered in use if a transfer of product is made to them at least once in any 180 day period. Heating oil tanks are considered in use if a transfer of product is made to them at least once in any 1 yr period. Inventory records, manifests, or paid receipts for product received are acceptable proof that transfers are being made.)</p> |

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| <p>6-31. Permanent closure and changes-in-service must meet notification and handling requirements (ILHR 10.732 and 10.738).</p> | <p>Verify that at least 15 days before beginning either permanent closure or a change-in-service, the installation notifies the authorized agent of the intent to permanently close or make the change-in-service, unless such action is in response to corrective action.</p> <p>Verify that a site assessment is performed after notifying the authorized agent but before completion of the permanent closure or a change-in-service.</p> <p>Verify that to permanently close a UST system, the installation empties and cleans it by removing all liquids and accumulated sludges and removes it from the ground.</p> <p>Verify that cleaning of the tank is performed by a certified cleaner.</p> <p>Verify that removal of tanks and other portions of UST systems is performed by a certified remover.</p> <p>Verify that tanks are made inert so that the composition of the atmosphere inside the tank is 10 percent of the lower explosive limit for the stored product prior to bringing the tank aboveground or performing any other work on the tank.</p> <p>Verify that if removal of the tanks from the ground would affect the structural integrity of a building or the fire chief or authorized agent determines a condition of hardship to exist, the tank may be abandoned in place and filled with an inert solid material after emptying and cleaning.</p> <p>(NOTE: Continued use of a UST system to store a nonregulated substance is considered a change-in-service.)</p> <p>Verify that before a change-in-service, the installation empties and cleans the tank by removing all liquid and accumulated sludge and conducts a site assessment.</p> <p>Verify that cleaning of tanks and site assessments are performed by persons certified by the Department.</p> <p>Verify that the installation maintains records that are capable of demonstrating compliance with closure requirements for 3 yr.</p> |

COMPLIANCE CATEGORY:
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>6-32. Site assessors must be certified and must perform site assessments according to specific requirements (ILHR 10.734).</p> | <p>Verify that when a site assessment is required, the installation measures for the presence of a release where contamination is most likely to be present at the UST site.</p> <p>(NOTE: A site assessment is not required for tanks that are closed or undergo a change-in-service if vapor monitoring or groundwater monitoring are operating and indicates that no release has occurred. A site assessment is not required for tanks that are lined if a visual internal inspection is made and no holes and no rust plugs are found during the lining process.)</p> <p>Verify that site assessments are performed by persons certified by the Department.</p> <p>Verify that if contaminated soils, contaminated groundwater or free product as a liquid or vapor is discovered while assessing the site, or by any other manner, the installation begins corrective action.</p> |
| <p>6-33. Previously closed UST systems must be brought into compliance (ILHR 10.736).</p> | <p>Verify that if the installation has a tank that was closed by filling with water, the tank is closed as above by 1 May 1994, except that no site assessment is necessary.</p> <p>Verify that empty or improperly closed or abandoned tanks that do not meet the requirements above are permanently closed.</p> |

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SECTION 7

**COMPREHENSIVE ENVIRONMENTAL RESPONSE
COMPENSATION AND LIABILITY ACT /
SUPERFUND AMENDMENT AND REAUTHORIZATION ACT (CERCLA/SARA)
AND RCRA CORRECTIVE ACTIONS**

Wisconsin Supplement

SECTION 7

**COMPREHENSIVE ENVIRONMENTAL RESPONSE
COMPENSATION AND LIABILITY ACT/SUPERFUND
AMENDMENT AND REAUTHORIZATION ACT (CERCLA/SARA)
AND RCRA CORRECTIVE ACTIONS**

Wisconsin Supplement

Regulations promulgated under the authority of *CERCLA* and *SARA* are applicable to installations in Wisconsin. See Protocol 7 in the U.S. ECAS Manual for Federal, Army, and Department of Defense (DOD) requirements.

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| INSTALLATION: | COMPLIANCE CATEGORY: COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPREHENSIVE AND LIABILITY ACT / SUPERFUND AMENDMENT AND REAUTHORIZATION ACT (CERCLA/SARA) AND RCRA CORRECTIVE ACTIONS Wisconsin Supplement | DATE: | REVIEWER(S): |
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SECTION 8

TOXIC SUBSTANCES CONTROL ACT (TSCA)

Wisconsin Supplement

SECTION 8

TOXIC SUBSTANCES CONTROL ACT (TSCA)

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Definitions

- **Department** - the Department of Natural Resources.
- **Full Service Contractor** - any person who accepts ownership and responsibility from a generator for delivery of polychlorinated biphenyls (PCBs) or products containing PCBs for disposal to a service, incineration or landfill facility and who is a full-service contractor licensed to transport hazardous waste under Wisconsin regulations.
- **Generator** - any person who possesses for disposal PCBs or products containing PCBs.
- **PCBs** - the class of organic compounds generally known as polychlorinated biphenyls and includes any of several compounds produced by replacing two or more hydrogen atoms on the biphenyl molecule with chlorine atoms.
- **Product Containing PCBs** - any item, device or material that PCBs has been added to intentionally during or after manufacture as plasticizers, heat transfer media, hydraulic fluids, dielectric fluids, solvents, surfactants, insulators or coating, adhesive, printing or encapsulating materials or for other uses related to the function of such item, device or material. PCBs and products containing PCBs exclude products that are electrical components containing less than 2 lb of PCBs, unless the Department prohibits the manufacture or purchase of any such product manufactured after the effective date of the Department's prohibition and an adequate alternative to that prohibited product is available. PCBs and products containing PCBs also excludes wastepaper, pulp or other paper products or materials. Such wastepaper, pulp or other paper products or materials may be purchased for use in Wisconsin for manufacturing recycled paper products.
- **Service Facility** - any business that contracts with a generator or full-service contractor for servicing, dismantling and salvaging products containing PCBs preceding disposal or salvaging PCBs preceding disposal.
- **Transporter** - any person who transports PCBs or products containing PCBs for disposal.
- **Waste Tracking Form** - a form provided or approved by the Department for use in recording all movement of PCBs or products containing PCBs for disposal or shipment to a service facility and includes the Wisconsin hazardous waste manifest form.

TOXIC SUBSTANCES CONTROL ACT (TSCA)
GUIDANCE FOR WISCONSIN CHECKLIST USERS

| Applicability: | Refer to Checklist Items: |
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| Generator Responsibilities | 8-1 through 8-5 |
| Transporter Responsibilities | 8-6 through 8-8 |
| Full-Service Contractors | 8-9 through 8-14 |
| Service Facility Responsibilities | 8-15 through 8-18 |
| Disposal Methods and Facilities | 8-19 through 8-22 |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>GENERATOR RESPONSIBILITIES</p> <p>8-1. Generators must meet specific requirements for handling and storing PCBs and products containing PCBs (NR 157.03(1)).</p> <p>8-2. Generators must meet specific requirements for transporting and disposing of PCBs and products containing PCBs (NR 157.03(2)(a), (b) and (d)).</p> <p>8-3. Generators must meet specific requirements for completing waste tracking forms (NR 157.03(2)(c)).</p> | <p>Verify that PCBs and products containing PCBs are handled and stored for disposal in a manner that prevents losses to the environment.</p> <p>Verify that containers used for transportation or storage of PCBs or products containing PCBs, except transformers, are not used for the storage or transportation of any other material.</p> <p>Verify that provisions are made with a service or disposal facility to accept the PCBs or products containing PCBs before permitting shipment for disposal.</p> <p>Verify that shipments to service or disposal facilities in Wisconsin go to only those facilities that meet the requirements for service facilities and disposal methods and facilities.</p> <p>Verify that if delivery of the shipment is rejected by the service or disposal facility, the generator makes provisions for immediate return of the shipment or delivery to another service or disposal facility.</p> <p>Verify that, except as provided in the requirements for full-service contractors, the generator transports PCBs or products containing PCBs in self-owned and operated vehicles or by contract with a transporter licensed as a transporter of hazardous wastes under Wisconsin regulations.</p> <p>Verify that the generator makes provisions with the transporter and service or disposal facility to aid the generator in completing waste tracking forms.</p> <p>Verify that waste tracking forms are completed in accordance with the following steps:</p> <ul style="list-style-type: none"> - the generator initiates the form by supplying the required information and by signing all copies before the waste is transported - the generator obtains the signature of the transporter on all copies of the form - the generator retains one copy and give the remaining copies to the transporter to be delivered with the PCBs or products containing PCBs to the service or disposal facility - the generator maintains records of all waste tracking forms for Department inspection - when the generator transports for disposal PCBs or products containing PCBs in self-owned and operated vehicles, waste tracking forms are to be completed as though the generator had contracted with a transporter. |

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| <p>8-4. Generators must meet specific requirements for preventing and dealing with spills of PCBs or products containing PCBs (NR 157.03(2)(d)).</p> | <p>Verify that prior to shipment of PCBs or products containing PCBs for disposal, the generator determines that the PCBs or products containing PCBs are packaged or stored in sturdy and secure containers in a manner that prevents leakage or spillage.</p> <p>Verify that, in the event of spillage of PCBs or products containing PCBs, the generator takes whatever actions are necessary to prevent or minimize damages to the environment or assists the transporter to prevent or minimize damages to the environment.</p> <p>(NOTE: Generators are exempt from the requirements for transporting and disposing of PCBs and products containing PCBs, for completing waste tracking forms and for determining that containers containing PCBs and products containing PCBs are sturdy and secure when they contract with a full-service contractor for transportation, servicing or processing of PCBs or products containing PCBs for disposal.)</p> |
| <p>8-5. Generators must use licensed transporters for the transportation of PCBs and products containing PCBs (NR 157.03(2)(d)).</p> <p>TRANSPORTER RESPONSIBILITIES</p> | <p>Verify that the generator determines that the transporter is licensed by Wisconsin as a transporter of hazardous wastes.</p> |
| <p>8-6. A transporter of PCBs or products containing PCBs for disposal must have a license (NR 157.04(1)).</p> <p>8-7. Transporters of PCBs or products containing PCBs for disposal must meet specific requirements (NR 157.04(2) and (3)).</p> | <p>Verify that a transporter of PCBs or products containing PCBs for disposal is licensed under Wisconsin regulations as a transporter of hazardous waste.</p> <p>(NOTE: This requirement does not apply to the transportation of PCBs or products containing PCBs by the generator.)</p> <p>Verify that the transporter completes applicable portions of the waste tracking forms and delivers the remaining copies to the service or disposal facility operator.</p> <p>Verify that the transporter takes measures to insure all of the following:</p> <ul style="list-style-type: none"> - all PCBs being transported are stored in sturdy and secure containers in a manner that prevents leakage or spillage - except for transformers, containers used for the transportation or storage of PCBs are not used for storage or transportation of any other material - a supply of absorbants or other materials or equipment is carried to be used to contain and clean up the PCBs if spillage occurs |

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| <p>8-7. (continued)</p> <p>8-8. Transporters of PCBs or products containing PCBs must meet specific requirements when a spill occurs (NR 157.04(4)).</p> <p>FULL-SERVICE CONTRACTORS</p> <p>8-9. A full-service contractor must have a license to transport hazardous waste (NR 157.05(1)).</p> <p>8-10. Full-service contractors must meet specific requirements when selecting a service or disposal facility for shipments of PCBs or products containing PCBs (NR 157.05(2)).</p> <p>8-11. Full-service contractors must meet specific requirements when a shipment of PCBs or products containing PCBs is rejected by a service or disposal facility (NR 157.05(2)).</p> | <ul style="list-style-type: none"> - provisions are adopted for the repackaging of the PCBs and continuation of the shipment to the service or disposal facility and for noting the amount spilled and disposition of spilled waste on the waste tracking forms on resumption of the trip. <p>Verify that the provisions for repackaging of the PCBs, continuation of the shipment to the service or disposal facility, and for noting the amount spilled and disposition of spilled waste on the waste tracking forms on resumption of the trip are met.</p> <p>Verify that the Division of Emergency Government is promptly notified.</p> <p>(NOTE: The generator is exempt from the requirements for transporters when contracting with a full-service contractor for transportation, servicing or processing of PCBs or products containing PCBs for disposal.)</p> <p>Verify that the full-service contractor is licensed as a transporter of hazardous wastes under Wisconsin regulations.</p> <p>Verify that the service or disposal facilities that shipments of PCBs or products containing PCBs are destined for meet the requirements for service facilities and disposal methods and facilities.</p> <p>Verify that if delivery of the shipment is rejected by the service or disposal facility, the contractor immediately makes provisions for storage of the rejected shipment not to exceed 60 days.</p> <p>(NOTE: The Department may extend the 60-day period upon a showing by the full-service contractor that a service or disposal facility capable of accepting for disposal PCBs or products containing PCBs is not available.)</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| 8-12. Full-service contractors must handle or store PCBs or products containing PCBs in a manner preventing losses to the environment (NR 157.05(2)). | Verify that any handling or storage by the contractor is done in a manner that prevents losses to the environment. |
| 8-13. Full-service contractors providing transportation, servicing or processing of PCBs or products containing PCBs must meet specific requirements (NR 157.05(3)). | Verify that the full-service contractor takes measures to insure that all of the following conditions are met: <ul style="list-style-type: none"> - all PCBs that are transported are stored in sturdy or secure containers in a manner that prevents leakage or spillage - except for transformers, containers used for transporting or storing PCBs or products containing PCBs are not used for storing or transporting any other material - a supply of absorbants or other materials or equipment is carried to be used to contain and pick up the PCBs if spillage occurs during transport - provisions are adopted for the repackaging of the PCBs and continuation of the shipment to the service or disposal facility and for noting the amount spilled and disposition of spilled waste on the waste tracking forms on resumption of the trip - if spillage does occur, the full-service contractor implements the adopted provisions and promptly notifies the Division of Emergency Government. |
| 8-14. Full service contractors must meet specific requirements for waste tracking forms (NR 157.05(4)). | Verify that full-service contractors make provisions with generators and service or disposal facilities to complete waste tracking forms. Verify that completed waste tracking forms are retained by the contractor for Department inspection. |
| SERVICE FACILITY RESPONSIBILITIES | |
| 8-15. Service facilities that repair or salvage PCBs or products containing PCBs in amounts greater than 2 lb per unit must register with the Department (NR 157.06(1)). | Verify that facilities that repair or salvage PCBs or products containing PCBs in amounts greater than 2 lb per unit register with the Department. Verify that only those facilities that have registered with the Department accept for repair or salvaging PCBs or products containing PCBs. |

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| 8-16. Service facilities that repair or salvage PCBs or products containing PCBs must meet specific requirements for procedures for safe handling, storage, draining and packaging (NR 157.06(2)). | <p>Verify that the facility institutes procedures for the safe handling, storage, draining and packaging of PCBs or products containing PCBs for disposal.</p> <p>Verify that, except for transformers, containers used to transport or store PCBs or products containing PCBs are not used for storing or transporting any other materials.</p> |
| 8-17. Service facilities that repair or salvage PCBs or products containing PCBs must meet specific requirements for shipping (NR 157.06 (3)(a)). | <p>Verify that the service facility makes provisions with a disposal facility to accept PCBs or products containing PCBs before permitting shipment for disposal.</p> <p>Verify that shipment to a disposal facility in Wisconsin is limited to only those facilities that meet the requirements for disposal methods and facilities.</p> <p>Verify that if delivery of the shipment is rejected by the disposal facility, the service facility makes provisions for immediate return of the shipment or delivery to another disposal facility.</p> |
| 8-18. Service facilities must meet specific requirements for waste tracking forms (NR 157.06(3)(b)). | <p>Verify that service facilities make provisions with approved transporters and disposal facilities to complete waste tracking forms.</p> <p>Verify that a copy of each completed form is retained by the service facility operator for Department inspection.</p> <p>Verify that a copy of each completed form is delivered with the PCBs or products containing PCBs to the disposal facility.</p> <p>(NOTE: The service facility operator may exempt himself from the requirements for shipping and for waste tracking forms by contracting with a full-service contractor for transport of PCBs or products containing PCBs to the disposal facility.)</p> |
| DISPOSAL METHODS AND FACILITIES | |
| 8-19. Disposal of PCBs or products containing PCBs must meet specific requirements (NR 157.07(1)). | <p>Determine if a technically and economically feasible incineration method is available for destruction of liquid or semisolid PCBs or products containing PCBs.</p> <p>Verify that the PCBs or products containing PCBs in liquid or semisolid forms are incinerated.</p> <p>Verify that, when technically and economically feasible methods of incineration are unavailable, solid or semisolid products containing PCBs are disposed of at a landfill facility.</p> |

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| <p>8-19. (continued)</p> <p>8-20. Incineration facilities for PCBs or products containing PCBs must have Departmental approval (NR 157.07(2)).</p> | <p>(NOTE: The Department may approve of an alternative method of disposal of PCBs or product containing PCBs, in liquid or semisolid form, other than incineration or, in the case of solid or semisolid form, other than by incineration or in landfills.)</p> <p>Verify that facilities in Wisconsin for incineration of PCBs or products containing PCBs are not established or operated without Departmental approval.</p> <p>Verify that complete plans and specifications for an incineration facility are submitted to the Department.</p> <p>Verify that the incineration of PCBs or products containing PCBs include a suitable scrubber to remove hydrochloric acid mist from the exhaust gas and a suitable balance of operation parameters, such as:</p> <ul style="list-style-type: none"> - dwell time - temperature - turbulence - excess oxygen. <p>(NOTE: Recommended requirements are 2-s dwell time at 1100 °C (2000 °F) and 3 percent excess oxygen in the stack gas or 12-s dwell time at 1500 °C (2700 °F) and 2 percent excess oxygen in the stack gas.)</p> |
| <p>8-21. Landfill facilities accepting PCBs or products containing PCBs must meet specific requirements (NR 157.07(3)).</p> | <p>Determine if the landfill facility accepts PCBs or products containing PCBs.</p> <p>Verify that the landfill is established and operated under Departmental approval.</p> <p>Verify that a proposed landfill is established and licensed in accordance with Wisconsin hazardous waste requirements.</p> <p>Verify that the landfill provides complete long-term protection for surface and subsurface waters from PCBs deposited therein and prevents hazards to public health and the environment.</p> <p>Verify that the landfill site is located or engineered to avoid direct hydraulic continuity with surface and subsurface waters.</p> <p>Verify that generated leachates are contained and subsurface flow into the disposal area is eliminated.</p> <p>Verify that required monitoring wells are established and a sampling and analysis program is conducted.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>8-22. Landfill operators must meet specific requirements for waste tracking forms (NR 157.07(4)).</p> | <p>Verify that the incinerator or landfill facility operator does all of the following upon utilization or final disposal of the PCBs or products containing PCBs:</p> <ul style="list-style-type: none">- signs the remaining copies of the waste tracking form- keeps a copy- immediately mails a copy to the generator, full-service contractor or service facility. |

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SECTION 9

FEDERAL INSECTICIDE, FUNGICIDE, & RODENTICIDE ACT (FIFRA)

Wisconsin Supplement

SECTION 9

FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA)

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(NOTE: U.S. Department of Defense (DOD) installations do not have to comply with these pesticide-use requirements. National Guard facilities, because they are state militia, must comply with these requirements.)

Definitions

These definitions were obtained from the Wisconsin Agriculture, Trade and Consumer Protection (ATCP) Regulations, Chapter ATCP 29.

- *Agricultural Commodity* - any plant or part of a plant, or animal or animal product, produced by a person primarily for sale, consumption, propagation or other use by humans or animals.
- *Animal Technician* - an individual who is certified as an animal technician under state Veterinary Examining Board laws.
- *Appurtenances* - all valves, pumps, fittings, pipes, hoses, metering devices, mixing containers, and dispensing devices that are connected to a storage container, or that are used to transfer liquid bulk pesticide into or out of a storage container.
- *Block* - an area, bounded by four streets or some other physical feature, that is the smallest geographic area used by the U.S. Bureau of the Census for data collection and tabulation.
- *Bulk Pesticide* - liquid pesticide in a container larger than 55 gal (208 L) or a solid pesticide in undivided quantities greater than 100 lb (45 kg). It includes mini-bulk pesticide, except as otherwise specified.
- *Business Location* - as used in connection with licensing of commercial application businesses, any place where a commercial application business operates on a regular basis as a commercial applicator for hire. *Business Location* includes a location where orders for pesticide applications are regularly taken, but does not include motorized vehicles containing mobile telephone units used to take pesticide application orders.
- *Catch Basin* - all structures or containers used to provide the containment capacity required to contain or hold liquids at a site where pesticides are transferred from one container to another. The term may include spill-containment surfaces, sumps, and aboveground storage containers.
- *Certified Applicator* - a private applicator or individual commercial applicator who is certified by the Department.

- ***Commercial Applicator*** - a person, whether or not a private applicator with respect to some uses, who uses or directs the use of any pesticide, either directly or through an employee, for any purpose or on any property other than as a private applicator. Commercial applicator does not include:
 - a person who applies a pesticide, other than a restricted-use pesticide, solely for household purposes in and around that person's residence
 - a person who contracts with a commercial applicator for hire to apply a pesticide for that person, if the person does not otherwise use or direct the use of a pesticide as a commercial applicator
 - a veterinarian or animal technician who uses or directs the use of a pesticide only while lawfully practicing within the scope of his or her license or certificate.
- ***Commercial Applicator for Hire*** - a commercial applicator who uses or directs the use of a pesticide as an independent contractor for hire, either directly or through an employee. *Commercial applicator for hire* does not include a provider of janitorial, cleaning or sanitizing services if the provider of the services uses no pesticides other than sanitizers, disinfectants and germicides, or a veterinarian or animal technician who uses a pesticide only while lawfully practicing within the scope of his or her license or certificate.
- ***Compatibility*** - that property of a pesticide that permits it to be used or combined with another pesticide or chemical without undesirable results being caused by the combination.
- ***Department*** - the State of Wisconsin Department of Agriculture, Trade, and Consumer Protection.
- ***Directs the Use*** - to select a pesticide for use by another person or to instruct or control the application of a pesticide by another person and to be available if and when needed during that application. Directs the use may, but does not necessarily, mean to be physically present at the time and place a pesticide is being applied.
- ***Discharge*** - a spill, leak, accidental or intentional release, or other emission of bulk pesticide from a storage container, container, or appurtenance, and includes a discharge into secondary containment. It does not include a fully contained transfer of bulk pesticide that is made pursuant to sale, storage, or distribution.
- ***Display*** - the exposure or holding open to public view of pesticides in any sales room or business area where sales are made and that is accessible to the public.
- ***Distribute*** - to import, consign, sell, offer for sale, solicit orders for sale, or otherwise supply pesticide for sale or use in this state.
- ***Distributor*** - a person engaged in the sale of pesticides for resale and includes a person who sells at both wholesale and retail.
- ***Dry Pesticide*** - pesticide that is in solid form prior to any application or mixing for application, and includes formulations such as dusts, wettable powders, dry flowable powders, and granules.
- ***Environment*** - includes air, water, land and all plants and persons and other animals living in or on the water, air, or land and the interrelationships that exist among them.
- ***Golf Course Superintendent*** - the person responsible for onsite management of a golf course.

- **Individual Commercial Applicator** - a natural person who does any of the following:

- personally uses or directs the use of any pesticide as a commercial applicator for hire, or as an employee of a commercial applicator for hire. This does not apply to a person performing janitorial, cleaning, or sanitizing services if the person uses no pesticides other than sanitizers, disinfectants, and germicides
- personally uses a restricted-use pesticide as a commercial applicator
- directs the use of a pesticide by one of the two types of persons listed above
- mixes or directs the mixing of a pesticide for the purpose of commercial application
- loads or directs the loading of a pesticide into application or nurse equipment for the purpose of commercial application.

(NOTE: Individual commercial applicator does not include a veterinarian or animal technician who uses or directs the use of a pesticide only while lawfully practicing within the scope of his or her license or certificate.)

- **Inorganic Soil** - a soil composed of less than 30 percent organic matter, measured as less than 15 percent organic carbon by weight.
- **Irrigation** - the application of water by any means to land, crops, or plants in order to supply the water needs of plants or to promote plant growth.
- **Landscape** - turf areas, including turf areas in and around residential premises, public, or commercial facilities, parks, workplaces, care facilities, recreational areas, and public lands. Landscape includes trees, shrubs and other vegetation growing within turf areas. Landscape does not include utility or transportation right-of-way areas, flower or vegetable gardens, greenhouses, nurseries, or areas used for agricultural production, forest production, or commercial turf production.
- **Landscape Application** - the application of a pesticide to a landscape. Landscape application does not include any of the following pesticide applications:
 - to trees by means of injection
 - by subsoil injection
 - for forest pest control in forests, forest nurseries, Christmas tree plantations, and tree-seed producing areas
 - for public health pest control of pests having medical and public health importance
 - for control of regulated pests
 - for abatement of pests as described under state plant industry laws.
- **Liquid Pesticide** - pesticide in liquid form, including solutions, emulsions, suspensions, and slurries.
- **Manufacture** - to process, manufacture, formulate, prepare, compound, propagate, package or label any pesticide.
- **Metam Sodium** - Sodium N-Methyldithiocarbamate, also referred to as metam sodium.
- **Metam Sodium Pesticide** - any soil fumigant or other pesticide containing metam sodium.
- **Mini-bulk Pesticide** - an amount of liquid pesticide greater than 55 gal (208 L) but not exceeding 400 gal (1514 L), or an amount of solid pesticide greater than 100 lb (45 kg) but not exceeding 500 lb (225 kg), that is held in a single container designed for ready handling and transport, has been filled by the original pesticide product manufacturer and that has not had an additional substance added to it by any person.

- *Ornamental* - trees, shrubs, and other plantings grown for their decorative effect in or around homes, buildings, parks, streets, or roadways.
- *Person* - an individual, partnership, corporation, association, and any other business association or entity. The term includes counties, municipalities, and townships.
- *Pest* - any insect, rodent, nematode, fungus, weed, or any other form of terrestrial or aquatic plant or animal life or virus, bacteria, or other microorganism, except viruses, bacteria or other microorganisms on or in living persons or other living animals, declared to be a pest under the *Federal Act* or these pesticide use requirements.
- *Pesticide* - any substance or mixture of substances labeled or designed or intended for use in preventing, destroying, repelling, or mitigating any pest, or as a plant regulator, defoliant, or desiccant. For purposes of use, storage, transportation, disposal, and display, the term includes pesticide-fertilizer mixtures and seeds, seed pieces, and other plant parts intended for planting or propagation that have been treated with a pesticide. For the purposes of secondary containment of liquid pesticides, this includes substances or mixtures of substances that are labeled as pesticides for use in further manufacture or formulation of pesticides.
- *Pesticide Drift* - the drifting or movement of pesticide by air currents or diffusion onto property beyond the boundaries of the target area to be treated with pesticide, other than by pesticide overspray. Absent evidence of pesticide overspray, the application of pesticide beyond the boundaries of the target area will be considered to be the result of pesticide drift.
- *Pesticide Overspray* - the application of pesticide onto property beyond the boundaries of the target area to be treated, by the failure to control the direct flow or application of pesticide from the application equipment, under surrounding conditions of use and application, so as to confine the pesticide to the target area.
- *Pesticide Product* - a pesticide coming in containers that are all labeled, in commerce, with a unique combination of all of the following:
 - the brand name of the pesticide
 - the name of the pesticide labeler
 - the pesticide registration number assigned to the pesticide under the *Federal Act*.
- *Pesticide Review Board* - the board made up of the secretary of agriculture, trade and consumer protection, the secretary of natural resources and the secretary of health and social services or their designated representatives.
- *Pesticide Use Category* - one of the following certification categories:
 - field and vegetable crop pest control
 - fruit crop pest control
 - animal pest control
 - forest pest control
 - ornamental and turf pest control
 - seed treatment pest control
 - aquatic pest control
 - right-of-way pest control
 - general industrial, institutional, structural and health-related pest control
 - fumigation pest control
 - soil fumigation pest control
 - wood-destroying pest control
 - wood preservation

- public health pest control
 - regulatory pest control
 - demonstration and research pest control.
- **Private Applicator** - a person who uses or directs the use of any pesticide for the purposes of producing any agricultural commodity on property owned or rented by the person or the person's employer, or on property of another person if the pesticide is used without compensation other than the trading of goods or services between producers of agricultural commodities on an exchange basis. Private applicator does not include a veterinarian or animal technician who uses a pesticide only while lawfully practicing within the scope of his or her license or certificate.
 - **Regulated Pest** - a specific organism considered under the *Federal Act* or rules of the Department to be a pest requiring regulatory restrictions, regulations, or control procedures in order to protect the host, or persons, or the environment.
 - **Resident** - any person residing in a residential structure.
 - **Residential Structure** - a structure that is used wholly or in part as a human residence, and includes all facilities and furnishings pertaining to that structure. Residential structure includes a residential structure occupied on a rental basis, and also includes a mobile home. Residential structure does not include any of the following:
 - a hotel, motel or similar premises occupied on a transient basis
 - a hospital, nursing home or similar facility occupied by persons receiving medical care or related services
 - a prison, jail or other place of detention.
 - **Restricted-Use Pesticide** - a pesticide that, with respect to certain or all of its uses, is classified under the *Federal Act* or Department of ATCP regulations as a restricted-use pesticide for use only by certified applicators.
 - **Retail Dealer** - a person engaged in the sale of pesticides to consumers at retail.
 - **Significant Pesticide Drift** - pesticide drift that, based on credible evidence, has moved to areas outside the target area in amounts that cause actual harm to or could conceivably harm persons, property, or the environment or that are readily visible.
 - **Storage** - the keeping or holding of pesticides, other than pesticides on display, at any location where pesticides are held for distribution, sale, use, or disposal, and except for storage as used in requirements involving general improper use when applying, using, and disposing of pesticides, excludes pesticides held on residential property for use in and about the home. For the purposes of secondary containment of liquid pesticides, storage means storage of bulk pesticide by a person who manufactures or distributes bulk pesticides.
 - **Storage Container** - when used in the context of secondary containment of liquid pesticides, a container used for storage of liquid bulk pesticide; a rail car, nurse tank, or other mobile container used for the storage of liquid bulk pesticide; or a container of mini-bulk pesticide. Storage container does not include a mobile container storing liquid bulk pesticide at a storage facility for less than 15 days, if this storage is incidental to the loading or unloading of a storage container at the storage facility; a mobile container located other than on property owned, operated, or controlled by a manufacturer or distributor; or a container used solely for emergency storage of leaking pesticide containers that are 55 gal or smaller.
 - **Storage Facility** - a location where bulk pesticide is held in storage.

- *Treated Landscape* - that portion of a landscape where a pest is applied.
- *Veterinarian* - an individual who is licensed as a veterinarian under Veterinary Examining Board laws.
- *Waters of the State* - those portions of Lake Michigan and Lake Superior, and all lakes, bays, rivers, streams, springs, ponds, wells, impounding reservoirs, marshes, water courses, drainage systems and other surface or groundwater, whether public or private, within the state or its jurisdiction.

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| Applicability | Refer to Checklist Items: |
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| Permits | 9-1 through 9-3 |
| Limited Purposes Pesticides | 9-4 through 9-6 |
| Emergency Use Permits | 9-7 |
| Licensing and Recordkeeping for Commercial Applicators | 9-8 and 9-9 |
| Storage | 9-10 |
| Contamination of Waters of the State | 9-11 through 9-13 |
| Application, Use, and Disposal | 9-14 through 9-17 |
| Posting Requirements for Pesticides with Safe Re-entry Intervals | 9-18 through 9-21 |
| Notification of Honeybee Colony Owners | 9-22 |
| Nonresidential and Nonlandscape Applications | 9-23 |
| Illegal Use | 9-24 |
| Spills | 9-25 and 9-26 |
| Mixing and Loading | 9-27 through 9-30 |
| Secondary Containment of Liquid Pesticides | 9-31 through 9-40 |
| Landscape Applications | 9-41 through 9-46 |
| Certification | 9-47 through 9-51 |
| Aldicarb | 9-52 and 9-53 |
| Metam Sodium | 9-54 through 9-57 |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>PERMITS</p> <p>9-1. Installations must meet requirements for the registration, purchase, or use of certain pesticides (ATCP 29.03(1) and (2)).</p> <p>9-2. Installations using or buying certain pesticides must get special permits (ATCP 29.04(1) and (6)(a)).</p> <p>9-3. Installations with special or emergency permits allowing use of sodium fluoroacetate (1080) must meet specific requirements (ATCP 29.04(4)(c)).</p> | <p>Verify that an installation registering, buying or using any of the following pesticides has an experimental use permit, an emergency use permit or authorization from the Pesticide Review Board:</p> <ul style="list-style-type: none"> - DDT - DDE (TDD) - Endrin - Cadmium - Thallium sulfate - Aldrin - Chlordane - Dieldrin - Heptachlor - 2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) - 2-(2,4,5-Trichlorophenoxy) propionic acid (silvex) - Dinoseb. <p>Verify that an installation buying or using the following pesticides gets a special permit from the Department:</p> <ul style="list-style-type: none"> - sodium fluoroacetate (1080) - strychnine, including products containing strychnine sold or bought for use as pesticides - any pesticide used for insect or rodent control in public sewers, except when used by a commercial applicator trained or certified in public health pest control. <p>Verify that the installation meets all terms and conditions of the permit.</p> <p>Verify that the following actions are taken when sodium fluoroacetate (1080) is used in a building:</p> <ul style="list-style-type: none"> - all buildings or building portions where the pesticide will be used are completely closed and sealed off against access by all nontarget animals and persons other than those doing the control work - control work within a building is done in a way that prevents contamination of the building or its contents - all remaining and unconsumed pesticide used in the building is completely removed from the building before it is opened for further use. <p>Verify that outdoor applications are made using tamper-proof bait boxes designed and secured to prevent a hazard to humans and nontarget animals, including birds or fish.</p> <p>Verify that carcasses of rats and mice are:</p> <ul style="list-style-type: none"> - picked up promptly after being killed by the pesticide - disposed of at a landfill site approved by the Department of Natural Resources. |

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| 9-3. (continued) | <p>Verify that records of each use of sodium fluoroacetate (1080) are kept which include the following information:</p> <ul style="list-style-type: none"> - the date and time of application - a description of the site where the pesticide was used - the form the pesticide was in when used - the method of application and the site used for carcass disposal. <p>Verify that the installation maintains these records for 2 yr and makes them available to the Department upon request.</p> |
| <p>LIMITED PURPOSES PESTICIDES</p> <p>9-4. Installations must meet specific requirements when buying or using benzene hexachloride (ATCP 29.05(1)(a) and (c)).</p> | <p>Verify that benzene hexachloride is only used at an application rate not exceeding 1/4 lb/acre to treat trees for control of the following:</p> <ul style="list-style-type: none"> - pine root collar weevil - pine tip weevil - balsam gall midge. <p>Verify that lindane (gamma isomer of benzene hexachloride) is used only for the following purposes:</p> <ul style="list-style-type: none"> - treatment of beef cattle, swine, goats (except dairy goats), sheep, and pets for mange and lice - treatment of sheep for fleeceworms - spot treatment of animals, including dairy cattle and goats, for the protection of flesh and flesh wounds against insect infestation - seed treatment - treatment of yard and noncommercial garden ornamentals - household uses that the product is registered for - medicinal use by physicians or persons acting under their direction - treatment of Christmas trees in tree plantations for the control of pine root collar weevil, pales weevil and pine root tip weevil - treatment of white pine and spruce Christmas trees in tree plantations for the control of the white pine weevil. |
| 9-5. Installations must meet specific requirements when buying or selling chromium in any pesticide formulation. (ATCP 29.05(1)(b)). | <p>Verify that chromium in any pesticide formulation is only used to pressure treat lumber for protection against termites and decay-producing fungi.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| <p>9-6. Installations buying or using pesticides with limited purposes must meet specific requirements (ATCP 29.05(1)(d) and (e); (2)).</p> <p>EMERGENCY USE PERMITS</p> <p>9-7. Installations are required to obtain emergency use permits when using pesticides for purposes not otherwise allowed (ATCP 29.06(1)).</p> | <p>Verify that mercury in any pesticide formulation is used for manufacture of paints or to control winter turf disease on golf tees and greens.</p> <p>Verify that daminozide is used only for treatment of nonfood-producing ornamental plants.</p> <p>Verify that the installation obtains the required permit.</p> <p>Verify that the installation uses pesticides for purposes not otherwise allowed only when necessary in an emergency situation to control the following:</p> <ul style="list-style-type: none"> - epidemic diseases of humans - plant or animal diseases or pest infestations that threaten substantial destruction of property - a rabid bat population. <p>(NOTE: Before any pesticide other than naphthalene is used under Department permit to control rabid bats, a permit is also required from the Pesticide Review Board. The board also may issue emergency permits for the use of DDT and its isomers and metabolites.)</p> |
| <p>LICENSING AND RECORDKEEPING FOR COMMERCIAL APPLICATORS</p> <p>9-8. Commercial pesticide application businesses and individual commercial applicators must meet commercial licensing requirements (ATCP 29.11(1) and (2)).</p> | <p>Verify that the following pesticide applicators have Departmental licenses:</p> <ul style="list-style-type: none"> - commercial application businesses - individual commercial applicators - anyone who mixes or loads pesticides, or directs the mixing and loading of pesticides into pesticide application equipment or nurse tanks for application by an individual commercial applicator - private applicators, when, as commercial applicators, they apply pesticides under the following circumstances: <ul style="list-style-type: none"> - for purposes other than agricultural commodity production - to more than 500 acres of land during any license year - for other persons on more than three separate occasions or applications during any license year - private applicators, when applying a restricted-use pesticide without private applicator certification. |

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| <p>9-9. Commercial applicators must meet record-keeping requirements (ATCP 29.11(3)).</p> <p>STORAGE</p> <p>9-10. Installations must meet pesticide storage requirements (ATCP 29.12(1), (2), (3), (4), (5) and (7); 29.15 (8)).</p> | <p>Verify that every commercial applicator meets all the following requirements:</p> <ul style="list-style-type: none"> - keeps a record of every pesticide application (to be completed by the day of the application) - keeps records for 2 yr - makes records available to the Department upon request. <p>Verify that the record contains all the following information:</p> <ul style="list-style-type: none"> - name of the individual who applied the pesticide - name and address of the person for whom the pesticide was applied, if other than the commercial applicator - location of the site where the pesticide was applied - pest or pests the pesticide was applied against - date and time of application - brand name of the pesticide applied - name of the pesticide manufacturer, or the U.S. Environmental Protection Agency (USEPA) registration number of the pesticide - rate of application or amount of the pesticide applied, and the total area treated - specific types of crops, commodities, plants, animals, structures, equipment, materials or sites treated - the location, if other than a licensed business location, where the pesticide was loaded into the application equipment or nurse tank. <p>(NOTE: No record is required for applications of germicides, sanitizers and disinfectants. The requirement for information about the pesticide loading location does not apply to applications made with prepackaged retail containers or to applications using application equipment with a total capacity of 5 gal or less of liquid pesticide or 50 lb or less of dry pesticide.)</p> <p>Verify that pesticides are stored according to temperature and moisture requirements and other precautionary storage instructions listed on the product label.</p> <p>Verify that pesticides are stored in a manner that will protect the original labels on the container from damage, destruction, or becoming unreadable.</p> <p>Verify that pesticides and their containers, while in storage, are kept in separate rooms or areas that are adequately separated from areas used for storage or display of any of the following:</p> <ul style="list-style-type: none"> - food - feed - seed |

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| 9-10. (continued) CONTAMINATION OF WATERS OF THE STATE 9-11. Installations must not contaminate waters of the state with pesticides (ATCP 29.15(2)(a)). | <p style="text-align: center;">REVIEWER CHECKS:</p> <ul style="list-style-type: none"> - livestock remedies - drugs - plants - other products and materials. <p>Verify that indoor rooms or areas used for pesticide storage are protected and secured so that they are not readily accessible to children or the general public.</p> <p>Verify that pesticides and pesticide containers stored at outdoor locations, including loading or application sites, are secured against entry by children or the general public with fenced or walled enclosures.</p> <p>Verify that pesticides and pesticide containers are covered or otherwise protected and secured to avoid damage to or destruction of product labels and to prevent hazards to persons, property or wild animals.</p> <p>Verify that pesticides and their containers temporarily held at loading and application sites in connection with their use are kept covered or otherwise secured or guarded so that the following requirements are met:</p> <ul style="list-style-type: none"> - access by children, wild animals and the general public is prevented - waters of the state are not contaminated. <p>Verify that pesticides removed from original shipping containers prior to storage are inspected to assure that caps, lids or sealing devices on the container are tight or secure and the container is sound and unbroken.</p> <p>Verify that if defective containers are not fully repaired, the container is destroyed or disposed of in accordance with label directions and in a landfill approved by the Department of Natural Resources.</p> <p>Verify that bins or areas used for storage of pesticides are maintained in clean condition and thoroughly inspected and cleaned prior to use for any other purpose.</p> |
| | <p>Verify that pesticides are not applied to or caused to enter waters of the state directly or through sewer systems.</p> <p>(NOTE: This does not apply to fish management, mosquito abatement, sewer treatments, necessary sanitary measures or water treatments that is permitted under Department of Natural Resources supervision.)</p> |

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| <p>9-12. Installations must not fill pesticide application equipment, mix tanks, or nurse tanks from waters of the state (ATCP 29.15(2)(b)).</p> | <p>Determine if the installation operates the following or engages in any of the following activities, which are exempt from this regulation:</p> <ul style="list-style-type: none"> - pesticide application equipment, mix tank or nurse tank drawing from a well or discharge outlet that is protected against backflow and backsiphonage as required by backsiphonage, cross connections and potability control regulations of the Industry, Labor and Human Relations Department - filling of a water tank from surface water if the water tank is used only to carry water - filling of a water tank from surface waters for an aquatic application that complies with aquatic plant management regulations. <p>Verify that the installation does not fill pesticide equipment, mix tanks, or nurse tanks from waters of the state.</p> <p>(NOTE: If any pesticide container is carried on the same vehicle carrying the water tank, the pesticide container must be at least 8 ft from the surface water while the water tank is being filled.)</p> |
| <p>9-13. Installations must not contaminate wells or surface waters of the state when cleaning pesticide spray equipment (ATCP 29.15(2)(c)).</p> | <p>Verify that pesticide spray equipment, mix tanks and nurse tanks are not cleaned in any surface waters of the state.</p> <p>Verify that pesticide spray equipment is not filled or cleaned near surface waters or wells where the slope or other conditions of the ground or bank might cause contamination of water with pesticides to occur.</p> <p>(NOTE: Nurse tanks used only for water supply purposes can be cleaned in surface waters of the state.)</p> |
| <p>APPLICATION, USE AND DISPOSAL</p> <p>9-14. Installations must not use pesticides improperly (ATCP 29.15(1)).</p> <p>9-15. Installations must not sell, use, lease, or furnish faulty pesticide application equipment (ATCP 29.15(3)).</p> | <p>Verify that no person mixes, handles, stores, transports or uses a pesticide with negligence, inconsistent with its labeling, or in a manner that results in pesticide overspray or significant pesticide drift.</p> <p>Verify that installations do not sell, use, lease or furnish pesticide application equipment that is clogged, unclean, leaking, in disrepair, or that cannot be properly calibrated to apply pesticides at the approved label rate of application.</p> <p>(NOTE: This does not prohibit the sale of faulty equipment if the seller discloses the defects before the sale.)</p> |

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| <p>9-16. Installations using aircraft to apply pesticides must meet specific requirements (ATCP 29.15(4)(a) and (b)1 and 2).</p> | <p>Verify that no installation applies pesticides by aircraft unless the aircraft meets the requirements of and is operated according to Federal Aviation Administration and Wisconsin Department of Transportation regulations.</p> <p>Verify that at least 24 h prior to aerial spraying, installations notify residents, either in writing or orally, on land immediately adjacent to installation land or installation-controlled land where pesticides will be applied, if those residents asked for such a notice within the calendar year.</p> <p>(NOTE: Notice of an aerial application is not required when the target site of application is no closer than 1/4 mi to the adjacent land where the party requesting notice resides.)</p> <p>Verify that if the pesticide application date is changed, a new notice to residents on adjacent land is given as soon as reasonably possible before the application.</p> <p>(NOTE: Advance notice is not necessary in emergencies where an immediate aerial application is required to control a sudden pest infestation and time does not allow an advance 24-h notice.)</p> <p>Verify that a notice of emergency application is given as soon as reasonably possible before or after the application, including an explanation of the emergency circumstances.</p> |
| <p>9-17. Installations must meet specific requirements for the disposal of pesticides and pesticide containers (ATCP 29.15(5)).</p> | <p>Verify that the disposal and holding for disposal of pesticides and pesticide containers meets all the following requirements:</p> <ul style="list-style-type: none"> - is consistent with label directions - does not contaminate the waters of the state - does not create a hazard to persons, property or the environment. <p>Verify that no pesticide container is re-used for any purpose.</p> <p>(NOTE: The prohibition against re-use of pesticide containers does not apply to recycling a container for scrap in compliance with applicable law, re-using a pesticide storage container that is designed for that purpose and doing so in compliance with label directions, or returning a pesticide container to a pesticide manufacturer, distributor or retail dealer who has agreed to take the container.)</p> |

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| <p>POSTING REQUIREMENTS FOR PESTICIDES WITH SAFE RE-ENTRY INTERVALS</p> <p>9-18. Areas treated with pesticides whose labels prescribe time intervals for safe re-entry after applications must meet posting requirements (ATCP 29.15(7)(a), (b), (d) and (e)).</p> | <p>Determine if any of the following areas have been treated with pesticides whose labels prescribe time intervals for safe re-entry:</p> <ul style="list-style-type: none"> - fields or outdoor areas within 100 ft of a public road or within 300 ft of sensitive areas such as residential areas, labor camps, school yards, hospitals, playgrounds, nursing homes, medical clinics, day care centers, parks or similar public areas or facilities - buildings or other areas. <p>Verify that the fields, buildings or other areas treated with pesticides are posted with one of the following:</p> <ul style="list-style-type: none"> - warning placards bearing the words DANGER - AREA TREATED WITH PESTICIDE - DO NOT ENTER - warning placards with words or symbols with the same meaning and effect. <p>Verify that the placards are posted before or immediately after treatment and are not removed until the re-entry interval prescribed on the pesticide label has expired.</p> <p>(NOTE: When installations contract for pesticide application, the pesticide applicator is responsible for all posting. An installation contracting for an aerial application may agree to assume responsibility for posting. These posting requirements do not apply to pesticide applications to waters of the state for the management or control of aquatic plants or organisms if posting of that treated area meets requirements of aquatic plant management regulations.)</p> |
| <p>9-19. Placards used to warn the public about outdoor areas treated with pesticides whose labels prescribe time intervals for safe re-entry following application must meet specific requirements (ATCP 29.15(7)(a)2 and (b)).</p> | <p>Verify that placards for the posting of fields, right-of-ways and other outdoor areas meet the following requirements:</p> <ul style="list-style-type: none"> - are white with red lettering and symbols - letters are 2 1/2 in. high, conspicuous and clearly legible. <p>Verify that placards are posted according to all the following:</p> <ul style="list-style-type: none"> - at regular intervals along the border between the treated area and the public road or other sensitive area - at normal points of access - at least one placard posted for each 1/4 mi of border. <p>Verify that treated areas bordering a public road or other sensitive areas for less than 1/2 mi are posted with at least one placard.</p> |

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| <p>9-20. Placards used to warn the public about indoor areas treated with pesticides whose labels prescribe time intervals for safe re-entry following application must meet specific requirements (ATCP 29.15(7)(a)1 and (b)).</p> | <p>Verify that placards posted on buildings, structures and similar indoor areas meet the following requirements:</p> <ul style="list-style-type: none"> - at least 8-1/2 by 11 in. in size - white with red lettering and symbols - words and symbols are conspicuous and legible. <p>Verify that treated buildings or indoor enclosures are posted at each entrance.</p> <p>(NOTE: Posting is not required for treated buildings and indoor enclosures if they are adequately secured against entry.)</p> |
| <p>9-21. Installations must meet the requirements for notification of employees for areas treated with pesticides whose labels prescribe time intervals for safe re-entry following application (ATCP 29.15(7)(c)).</p> | <p>Verify that persons employed in or around areas treated with pesticides are given clear notice and warning of each application.</p> <p>Verify that the notice and warning includes the following:</p> <ul style="list-style-type: none"> - a description of the treated area - the time interval required for safe re-entry into the area - written so that it is easy to understand and given to all employees, including those of limited proficiency in English, who may have access to the area. |
| <p>NOTIFICATION OF HONEYBEE COLONY OWNERS</p> <p>9-22. Installations planning to apply certain pesticides harmful to bees must give notice to certain owners of honeybee colonies (ATCP 29.15(9)).</p> | <p>Determine if the installation plans to have pesticides applied that are labeled as highly toxic to bees or containing methomyl to installation land or installation-controlled land.</p> <p>Determine if beekeepers with colonies within a 1 1/2-mi radius of the pesticide application area have given the installation a written request within the calendar year asking for advance notice of applications that might affect bees.</p> <p>Verify that the beekeepers who have requested advance notice are notified of a pesticide application, in writing or orally, at least 24 h before it occurs.</p> <p>Verify that if the application date changes after the original notice, a new notice is given as soon as possible.</p> <p>(NOTE: Advance notice is not required in emergencies where an immediate application is required to control a sudden pest infestation, and time does not reasonably allow for an advance 24-h notice.)</p> <p>Verify that notice of emergency applications is given as soon as reasonably possible before or after the application and includes a brief explanation of the emergency's circumstances.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| NONRESIDENTIAL AND NONLANDSCAPE APPLICATIONS 9-23. Commercial applicators for hire must meet specific requirements when applying pesticides to nonresidential and nonlandscape premises (ATCP 29.15(10)). ILLEGAL USE 9-24. Installations must not use pesticides illegally (ATCP 29.15 (11)). | <p>Verify that commercial applicators for hire provide their clients with a written statement containing the following information about the applicator and the pesticide application before or immediately after any nonresidential or nonlandscape application:</p> <ul style="list-style-type: none"> - name, license number and certification number of the applicator - telephone number of the applicator or the commercial application business - common chemical or brand name of the pesticide applied - concentration and total quantity of the pesticide applied, or the amount of pesticide active ingredient applied per unit area and the total area treated - any postapplication precautions stated on the pesticide label, including any prescribed time intervals for re-entry, grazing, harvest or swimming - date and approximate time of application. <p>(NOTE: The written statement may be provided up to 30 days after the pesticide application if, before the application, the commercial applicator for hire notifies the client of pertinent postapplication precautions specified on the pesticide label and the dates for pesticide application.)</p> |
| | <p>Verify that installations who employ or contract with pesticide applicators do not knowingly direct, compel or coerce applicators to violate these pesticide-use requirements or state plant industry laws covering the following:</p> <ul style="list-style-type: none"> - adulteration of pesticides - misbranding of pesticides - licensing of pesticide manufacturers and labelers - well compensation fee - licensing of dealers and distributors of restricted use pesticides - pesticides rules - prohibited acts with pesticides - licensing of commercial application businesses and individual commercial applicators - certification requirements and standards for pesticides - distribution and sale of certain pesticides - sale and use of pesticides to control bats - pesticides penalties and enforcement. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| SPILLS <p>9-25. Installations must meet specific requirements when a pesticide spill occurs (ATCP 29.15 (13)).</p> <p>9-26. Storage of spilled pesticides and pesticide-containing materials must meet requirements (ATCP 29.151 (5)).</p> | <p>Verify that pesticide spills are immediately contained and recovered so that contamination of waters of the state and hazards to persons, property, fish and other animals are prevented.</p> <p>Verify that surfaces where pesticides have been spilled are promptly cleaned to assure maximum recovery of the spilled material.</p> <p>(NOTE: The Department of Natural Resources administers rules that require reporting of spills. Those requirements are based upon the quantity of pesticide spilled.)</p> <p>Verify that spilled pesticides and spilled materials containing pesticides are not stored below ground level.</p> <p>Verify that aboveground containers used to hold pesticide spills or rinsate are located within secondary containment that complies with the requirements for secondary containment of liquid pesticides.</p> |
| MIXING AND LOADING <p>9-27. Pesticide mixing and loading operations must meet general requirements (ATCP 29.151 (1); (2)(a), (b) and (c); and (6)).</p> | <p>Determine if the pesticide mixing or loading operations are conducted within 100 ft of any well or surface water, or at a pesticide mixing and loading site.</p> <p>Verify that pesticide mixing and loading operations, including operations to impregnate fertilizers with pesticides, are conducted over a surface that is designed to catch and contain pesticide spills.</p> <p>Verify that the surface is paved or lined with asphalt, concrete or other Department-approved materials.</p> <p>Verify that if any liquid pesticide, including any pesticide mixed with a liquid carrier, is mixed or loaded over a spill containment surface, that surface meets all of the following conditions:</p> <ul style="list-style-type: none"> - it is curbed or sloped to contain spillage and prevent liquids from adjacent surfaces from flowing onto the spill containment surface - it forms or drains into a liquid-tight catch basin that meets capacity requirements. <p>(NOTE: If no liquid pesticides are mixed or loaded over a spill containment surface, the spill containment surface need not comply with the curbing and catch basin requirements. Impregnation of a nonliquid fertilizer with a liquid pesticide constitutes the mixing or loading of a nonliquid pesticide.)</p> |

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| <p>9-28. Spills that occur as pesticides are mixed or loaded must be promptly recovered (ATCP 29.151(4)).</p> | <p>Verify that pesticides spilled or intentionally released onto a spill containment surface are promptly recovered from the surface or catch basin.</p> |
| <p>9-29. Installations must meet specific requirements when mixing or loading nonliquid pesticides (ATCP 29.151 (2)(c)2).</p> | <p>Determine if the pesticide mixing or loading operations are conducted within 100 ft of any well or surface water, or at a pesticide mixing and loading site.</p> <p>Verify that if nonliquid pesticides are mixed or loaded over a spill containment surface, that surface is large enough to contain reasonably foreseeable spills or overflow from the largest vehicle that those pesticides are transferred to at that location.</p> <p>Verify that the spill containment surface extends beneath the pesticide load-out conveyor, if any, unless the load-out conveyor is fully enclosed within a housing that is adequate to contain any spillage from the conveyor.</p> <p>Verify that the spill containment surface prevents water or other liquids from flowing onto the surface.</p> <p>(NOTE: The spill containment surface for nonliquid pesticides may consist of a tarpaulin made of nonabsorbent materials of adequate thickness and construction to withstand all foreseeable loading conditions.)</p> |
| <p>9-30. Catch basins for pesticide spills must meet requirements (ATCP 29.151 (3)).</p> | <p>Determine if the pesticide mixing or loading operations are conducted within 100 ft of any well or surface water, or at a pesticide mixing and loading site.</p> <p>Verify that catch basins for liquid pesticides have a capacity of 1500 gal or more.</p> <p>(NOTE: To attain the required capacity, the catch basin may include a sump that pumps liquids automatically to an above-ground container.)</p> <p>Verify that the available capacity of the liquid-tight catch basin is at least 125 percent of the capacity of the largest container loaded or unloaded at the site, provided that no pesticide is transferred from or into a container larger than 1000 gal, including containers on application equipment.</p> |

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| SECONDARY CONTAINMENT OF LIQUID PESTICIDES <p>9-31. Containers must be stored in a liquid pesticides secondary containment facility that meets specific requirements (Ag 163.04(1)).</p> <p>9-32. Liquid pesticides secondary containment facilities must meet specific requirements for capacity (Ag 163.04(2)).</p> <p>9-33. Liquid pesticides secondary containment facilities must meet specific requirements for storage of other commodities (Ag 163.04(3)).</p> <p>9-34. The walls of a liquid pesticides secondary containment facility must meet specific requirements (Ag 163.04(4)).</p> | <p>Verify that storage containers are enclosed in a secondary containment facility that is adequate, in the event of discharge, to prevent the movement of liquid pesticides to waters of the state.</p> <p>Verify that the secondary containment facility consists of a wall and liner or a prefabricated facility.</p> <p>Verify that the capacity of a secondary containment facility is at least equal to the sum of all the following:</p> <ul style="list-style-type: none"> - the greatest volume of liquid that could be discharged from the largest storage container within the secondary containment facility - 25 percent of the capacity of the largest storage container located within the secondary containment facility for an outdoor storage container, or 10 percent of the capacity of the largest storage container located within the secondary containment facility for an indoor storage container - the total volume of discharged liquid that would displaced by the submerged portions of all other storage containers, fixtures and materials located within the secondary containment facility, if the facility were filled to capacity with discharged liquid. <p>Verify that no other commodities, other than the following, are stored within a liquid pesticide secondary containment facility:</p> <ul style="list-style-type: none"> - liquid pesticide - pesticide diluent - empty pesticide containers - pesticide discharges recovered under the recovery of discharge requirements or requirements for liquid pesticide loading areas. <p>(NOTE: A liquid pesticide secondary containment facility may be located within, or may share a wall or portion of a wall with, a liquid fertilizer secondary containment facility that meets Department construction requirements.)</p> <p>Verify that secondary containment facility walls are constructed of earth, steel, concrete or solid masonry and are designed to withstand a full hydrostatic head of any discharged liquid.</p> <p>Verify that cracks and seams are sealed to prevent leakage.</p> <p>Verify that earthen walls have a horizontal-to-vertical slope of at least three to one, unless a steeper slope is consistent with good engineering practice, and is protected from erosion.</p> |

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| 9-34. (continued) | Verify that walls do not exceed 6 ft (1.8 m) in height above interior grade. |
| 9-35. Liquid pesticides secondary containment facility walls and bases must meet lining requirements (Ag 163.04(5)(a), (b), and (c)). | Verify that the secondary containment facility base, any earthen facility walls, or walls of other permeable materials are lined with one of the following: <ul style="list-style-type: none"> - asphalt - concrete - an approved synthetic liner - a soil liner designed to limit the permeability of the base and walls. Verify that asphalt or concrete liners are designed according to good engineering practices to withstand any foreseeable loading conditions, including a full hydrostatic head of discharged liquid. |
| 9-36. Liquid pesticides secondary containment facility linings made of soil must meet specific requirements (Ag 163.04(5)(d)). | Verify that cracks and seams in asphalt or concrete liners are sealed to prevent leakage. Verify that any synthetic liner is approved by the Department and has a minimum thickness of 30 mils (0.8 mm) and is chemically compatible with the materials being stored within the facility. Verify that synthetic liners are installed under the supervision of a qualified manufacturer representative, and all field-constructed seams are tested, and repaired, if necessary, according to the manufacturer's recommendations. Verify that the liner is designed and constructed according to good engineering practices, to achieve a coefficient of permeability not to exceed 1×10^{-6} cm/s, with a thickness of not less than 6 in. Verify that the liner is covered by an inorganic soil layer not less than 6 in. (15 cm) thick, and is maintained so as to prevent cracking. Verify that liners are not constructed of frost-susceptible soil, including silts and silty sand. (NOTE: Soil liners may be constructed of natural soil or of natural soil treated with bentonite clay, provided that the liner meets these soil liner requirements.) Verify that a natural soil is not used in a soil liner if less than 50 percent by weight of the natural soil passes a No. 200 sieve, or if more than 5 percent by weight of the natural soil is retained on a No. 4 sieve. Verify that natural soil liners contain less than 2 percent organic material and have a plasticity index of at least 15. |

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| 9-36. (continued) | <p>Verify that bentonite-treated liners have a uniform mixture of natural soil and bentonite.</p> <p>Verify that the natural soil in the natural soil-bentonite mixture has a plasticity index of at least 12.</p> <p>Verify that at least 30 percent by weight of the natural soil passes a No. 200 sieve, and less than 5 percent by weight of the natural soil is retained on a No. 4 sieve.</p> <p>Verify that 90 percent of the bentonite by weight passes a No. 80 sieve and the soil-bentonite mixture contains at least 5 percent bentonite by weight.</p> |
| 9-37. Prefabricated liquid pesticides secondary containment facilities must meet specific requirements (Ag 163.04(6)). | <p>Verify that a prefabricated facility is composed of a rigid prefabricated basin having both a base and walls constructed of steel or synthetic materials that are resistant to corrosion, puncture or cracking.</p> <p>Verify that materials used in the prefabricated facility are chemically compatible with the products being stored within the secondary containment facility.</p> <p>Verify that a written confirmation of compatibility from the basin manufacturer is kept on file at the storage facility or at the nearest local office from which the storage facility is administered.</p> <p>Verify that the prefabricated facility is designed and installed to withstand all foreseeable loading conditions, including the tank load and a full hydrostatic head of any discharged liquid.</p> <p>Verify that multiple basins connected to meet capacity requirements are connected in a manner that assures an unrestricted transfer of discharged liquid between basins.</p> |
| 9-38. Liquid pesticides secondary containment facilities must meet specific requirements for inspection and maintenance (Ag 163.04(7)(a)). | <p>Verify that every secondary containment facility is inspected at intervals of not more than 12 mo and is maintained as necessary to assure compliance with the requirements for secondary containment facilities for liquid pesticides.</p> <p>Verify that a written record of all inspections and maintenance is made on the day of the inspection or maintenance and is kept at the storage facility or at the nearest local office from which the storage facility is administered.</p> |

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| <p>9-39. Liquid pesticides secondary containment facilities must meet specific requirements for precipitation accumulations (Ag 163.04(7)(b)).</p> | <p>Verify that precipitation is not permitted to accumulate in a secondary containment facility to the point where the accumulation may tend to do any of the following:</p> <ul style="list-style-type: none"> - impair the adequacy of the facility for discharge containment purposes - increase the corrosion of storage containers or appurtenances - impair the stability of storage containers. |
| <p>9-40. Liquid pesticide secondary containment facilities must meet specific requirements for recovery of discharges (Ag 163.04(8)).</p> | <p>Verify that discharges at a storage facility are promptly recovered, to the maximum extent feasible.</p> <p>Verify that pumps and recovery containers are readily available for discharge recovery.</p> <p>(NOTE: Unless the discharge recovered is applied according to product label directions, the discharge may be a regulated waste.)</p> |
| <p>LANDSCAPE APPLICATIONS</p> <p>9-41. Commercial applicators must meet specific requirements for providing preapplication information to persons contracting for a landscape application (ATCP 29.154(2)(a) and (b)).</p> | <p>Determine if the commercial applicator is contracting with a person to make a landscape application.</p> <p>Verify that the commercial applicator offers to provide the contracting person with any of the following preapplication information, in writing, upon the contracting person's request:</p> <ul style="list-style-type: none"> - the common chemical or brand name of each pesticide that may be applied - a copy of the pesticide label for each pesticide that may be applied - date the pesticide application will made, communicated orally, rather than in writing, if the requester agrees to oral notification - name, business address and telephone number of a person who can provide further information about the pesticide application. <p>Verify that the preapplication information is given by the commercial applicator to the contracting person before the pesticide application is made.</p> |

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| <p>9-42. Commercial applicators must meet specific requirements for providing postapplication information to persons contracting for landscape applications (ATCP 29.154(c)).</p> | <p>Determine if the commercial applicator has completed a landscape application for any person.</p> <p>Verify that the commercial applicator provides the contracting person with all the following information:</p> <ul style="list-style-type: none"> - name and business address of the individual applicator who made or supervised the application, and the applicator's license number, if any - the common chemical or brand name of each pesticide actually applied - the concentration and total quantity of each pesticide actually applied, or the amount of pesticide active ingredient applied per unit area and the total area treated - any pertinent postapplication precautions stated on the pesticide label, including precautions related to re-entry or use of treated areas - date and approximate time of application - notice from the commercial applicator that a copy of the pesticide label is available free of charge and upon request to the contracting person for each pesticide actually applied. |

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| <p>9-43. Commercial applicators making landscape applications must meet posting requirements (ATCP 29.154(3)).</p> | <p>Determine if the commercial applicator has made a landscape application other than a landscape application to a golf course.</p> <p>Verify that the commercial applicator posts placards that meet the following requirements:</p> <ul style="list-style-type: none"> - posted at the time of the landscape application and not removed until sunset of the day following the application or until the safe re-entry interval on the pesticide label has expired, whichever is later - at least 4 in. by 5 in. and attached to a stable supporting device - made of rigid material that is durable enough so that it can be read for at least 72 h after posting, even if poor weather occurs - professionally printed with red lettering on a white background, with the universal symbol depicting an adult, child and pet in a circle, with a diagonal line across the circle - bears the words, in not less than 36-point type, PESTICIDE APPLICATION and PLEASE KEEP OFF - bears the words, in not less than 9-point type, DO NOT REMOVE UNTIL SUNSET THE DAY FOLLOWING APPLICATION and FOR ADDITIONAL INFORMATION ON THIS APPLICATION OR ANY FUTURE APPLICATIONS, CALL (name and telephone number of the commercial applicator's business) OR THE DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION AT 608-266-LAWN - posted at regular intervals along the boundaries of the treated landscape <p>(NOTE: If the boundaries of a treated landscape do not correspond to readily identifiable physical or property boundaries, placards are to be posted in a manner that defines the landscape.)</p> <ul style="list-style-type: none"> - posted so that they are clearly visible from the boundaries of the treated landscape <p>(NOTE: If a driveway, sidewalk or other established vehicle or pedestrian thoroughfare intersects the boundary of the treated landscape, placards are to be posted so that it is clearly visible from that point of intersection.)</p> <ul style="list-style-type: none"> - at least one placard is posted for every 300 ft of treated landscape boundary. |

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| 9-43. (continued) | <p>(NOTE: If the treated landscape area exceeds 2000 ft², but the perimeter is less than 1200 ft, at least four placards are to be posted at regular intervals along the boundary of the treated landscape. If the treated landscape area is less than 2000 ft², only one placard is required for that treated landscape. The placard is to be posted so that it is clearly visible from the most likely point of entry to the treated landscape.)</p> <p>Verify that, if the label of the pesticide used for the landscape application prescribes a time interval for safe re-entry following application, the applicator also posts warning placards that meet the requirements in the section, Posting Requirements for Pesticides with Safe Re-entry Intervals.</p> |
| 9-44. Installations filing requests for advance notices of landscape applications must meet specific requirements (ATCP 29.154(5)(b)). | <p>Determine if the installation wants to request advance notice of landscape applications.</p> <p>Verify that the installation mails the request so that it is postmarked or delivered to the Department on or before 1 March and includes all the following:</p> <ul style="list-style-type: none"> - the requester's name, address, and telephone number - the address of those properties, on the requester's block or immediately adjoining blocks, that the requester is seeking advance notice of landscape application for. |
| 9-45. Landscape applications to golf courses must meet specific requirements for posting (ATCP 29.154(6)(a) and (b)). | <p>Verify that all-weather signs are permanently and conspicuously posted at all the following locations:</p> <ul style="list-style-type: none"> - at or near the place where golfers register to play the course - at or near the first tee of every nine holes - if the nongolfing public is allowed access to the golf course by means of any road, driveway, sidewalk, path or other established thoroughfare, at every point where that thoroughfare intersects the boundary of the golf course. <p>Verify that the all-weather signs are 12 in. by 12 in. and say, in red lettering of not less than ½ in. in height, PESTICIDES ARE PERIODICALLY APPLIED TO THIS GOLF COURSE. YOU MAY CONTACT THE GOLF COURSE SUPERINTENDENT FOR FURTHER INFORMATION.</p> |
| 9-46. A golf course superintendent or his designee must furnish pesticide application information to people requesting it (ATCP 29.154(c)). | <p>Determine if a person has asked the golf course superintendent or his designee for information about pesticide application on the golf course.</p> <p>Verify that the golf course superintendent or his designee indicate that the following information is available and provide that information in writing upon request:</p> <ul style="list-style-type: none"> - general description of the types and amounts of pesticides commonly applied to the golf course |

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| 9-46. (continued) | <ul style="list-style-type: none"> - an identification of pesticide applications made to the golf course within the last week prior to the request, including the common chemical or trade names of the pesticides applied and the areas where those pesticides were applied - a copy of the pesticide label related to any pesticide application made to the golf course within the last week prior to the request. |
| <p>CERTIFICATION</p> <p>9-47. Individual commercial applicators must meet certification requirements (ATCP 29.159(1)).</p> | <p>Verify that any licensed individual commercial applicator who engages in an activity requiring licensing also has valid certification from the Department in the applicable pesticide use category.</p> <p>Verify that licensed commercial applicators only apply pesticides in the categories or category for which they are specifically certified.</p> <p>(NOTE: An individual commercial applicator license holder certified under the category of field and vegetable crop pest control, fruit crop pest control, forest pest control, ornamental and turf pest control or right-of-way pest control may mix or load pesticides for application in all of these five categories.)</p> <p>(NOTE: Individual commercial applicators exempt from licensing are also exempt from certification.)</p> |
| 9-48. Aerial applicators must meet certification requirements (ATCP 29.159(6)). | <p>Verify that individual commercial applicators using fixed or rotary-wing aircraft to apply pesticides are certified as aerial applicators in the applicable pesticide use category.</p> <p>Verify that any person aerially applying pesticides is fully trained and licensed to operate the aircraft used in pesticide applications.</p> |
| 9-49. Pesticide mixers and loaders must meet certification requirements (ATCP 29.159(7)). | <p>Verify that the following individuals are certified as mixer-loaders of pesticides:</p> <ul style="list-style-type: none"> - persons mixing or loading pesticides for application - persons directing the mixing or loading of pesticides into application equipment or nurse vehicles. <p>Verify that persons with mixer-loader certification are only involved in the mixing and loading of pesticides for which they are specifically certified.</p> <p>(NOTE: Persons certified as pesticide mixer-loaders under the category of field and vegetable crop pest control, fruit crop pest control, forest pest control, ornamental and turf pest control or right-of-way pest control may mix or load pesticides for application in all of these five categories but may apply only pesticides in the categories that they have specific certification for.)</p> |

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| <p>9-50. Commercial applicator trainees must meet registration requirements (ATCP 29.161(1), (3) and (4)).</p> | <p>Verify that the commercial applicator trainee is registered.</p> <p>Verify that commercial applicator trainees meet all the following requirements:</p> <ul style="list-style-type: none"> - use only pesticides for a 30-day period, beginning the day the complete registration form is filed with the Department - does not use restricted-use pesticides unless authorized in writing by the Department - use only pesticides under the direct, onsite supervision of a certified, licensed applicator in pesticide use categories for which the supervisor has commercial applicator certification - register as trainees not more than once annually - use pesticides commercially only if they have a dated copy of their registration form in their immediate possession. <p>(NOTE: A person may register twice as a commercial applicator trainee if the person is employed by a different commercial application business at the time of the second registration.)</p> <p>Verify that all conditions and requirements that the trainee registered under are met.</p> |
| <p>9-51. Private applicators must meet certification requirements (ATCP 29.162(1), (6), (7) and (8)).</p> | <p>Verify that anyone using or directing the use of restricted-use pesticides as a private applicator is certified as a private applicator.</p> <p>Verify that anyone mixing or loading a restricted-use pesticide or directing the mixing or loading of a restricted-use pesticide into pesticide application equipment or nurse tanks for application by a private applicator is certified as one of the following:</p> <ul style="list-style-type: none"> - a private applicator - an individual commercial applicator in a relevant pesticide use category under individual commercial applicator requirements and individual commercial applicator certification categories. <p>(NOTE: The Department may issue an emergency-use certification for a specific one-time use of a restricted-use pesticide, may certify persons of limited English ability and may certify a nonresident private applicator.)</p> |
| <p>ALDICARB</p> <p>9-52. Pesticide applicators using pesticides with the active ingredient aldicarb must meet specific requirements (ATCP 29.17(2), (3) and (5)).</p> | <p>Verify that no pesticide containing aldicarb is applied at a rate exceeding 2 lb of aldicarb active ingredient per acre or to the same application site more than once in any 2 successive years.</p> <p>Verify that pesticides containing the active ingredient aldicarb are applied by only an individual commercial applicator certified in the pest control category pertaining to the type of application being made or a certified private applicator.</p> |

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| <p>9-52. (continued)</p> <p>9-53. Pesticide applicators using a pesticide containing the active ingredient aldicarb must meet summary special order requirements (ATCP 29.17(7)(d) and (e) and (12)).</p> | <p>Verify that a report of intended application is filed with the Department at least 45 days before aldicarb-containing pesticide is applied. (NOTE: The Department may prohibit a proposed aldicarb application, but the installation may ask for an exemption from the prohibition.)</p> <p>Verify that the installation does not apply aldicarb in violation of a summary special order issued by the Department.</p> <p>Verify that installation personnel does not violate the terms and conditions of an agreement in which aldicarb applications are allowed if aldicarb levels of ground water are monitored. (NOTE: Summary special orders are subject to a subsequent right of hearing before the Department upon request. Aldicarb use restrictions do not apply to greenhouse and research applications done with an experimental use permit.)</p> |
| <p>METAM SODIUM</p> <p>9-54. Pesticide applicators using pesticides with metam sodium must meet specific requirements (ATCP 29.171).</p> | <p>Verify that no person applies metam sodium pesticide unless the person is one of the following:</p> <ul style="list-style-type: none"> - an individual commercial applicator who is certified in each applicable pest control category - a private applicator who is certified in the fumigation category - an individual who uses the metam sodium pesticide solely for household purposes around the person's residence. <p>(NOTE: An individual commercial applicator who applies metam sodium as a soil fumigant for agricultural purposes must be certified in field and vegetable crop pest control and in soil fumigation pest control.)</p> <p>Verify that an agricultural application of metam sodium pesticide is not made within 1/4 mi of any of the following:</p> <ul style="list-style-type: none"> - hospital - nursing home - jail - prison - a school that will be in session during the application or within 48 h after the application is completed. <p>Verify that the following agricultural applications of a metam sodium pesticide are made only if the soil is covered by a tarp or other impermeable barrier as described on the pesticide label:</p> <ul style="list-style-type: none"> - applications of the pesticide to the soil surface - applications of the pesticide to the soil surface that are incorporated by discing or tilling the soil surface. |

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| 9-54. (continued) | <p>(NOTE: The prohibition of agricultural applications of a metam sodium pesticide if the soil is not covered by a tarp or other impermeable barrier does not apply to an application involving pesticide injection beneath the soil surface.)</p> <p>Verify that an agricultural application of metam sodium pesticide is not made by knife rig injection when the soil temperature is greater than 75 °F at the soil depth of 5 to 6 in.</p> |
| <p>9-55. Certified applicators must meet requirements after a field has been treated with metam sodium (ATCP 29.171(4)).</p> | <p>Verify that a certified applicator checks fields and portions of fields treated with metam sodium pesticide, as well as surrounding areas, for volatilized gas odors resulting from the application at the following frequencies:</p> <ul style="list-style-type: none"> - 6 to 7 h after the application is completed - 12 to 13 h after the application is completed. <p>Verify that the certified applicator carefully monitors locations where gases have volatilized and initiates any required followup action.</p> <p>Verify that if volatilized gases are found or have moved or could move off the application site in quantities that could result in significant drift, the site is immediately irrigated with 1/4 in. to 1/2 in. of water, if an irrigation system is available at the site.</p> <p>Verify that the certified applicator notifies the Department when significant drift of volatilized gases occurs.</p> <p>Verify that the certified applicator takes all the following actions if residential structures or public buildings could be exposed to significant drift of volatilized gas:</p> <ul style="list-style-type: none"> - notifies the Division of Emergency Government that persons may be exposed to gas drift - identifies the location of the application site. <p>Verify that certified applicators who have applied metam sodium pesticides make and keep the following records:</p> <ul style="list-style-type: none"> - all required records for commercial applicators for the metam sodium application - the time of each of the two postapplication inspections, results of those inspections and any actions taken as a result of those inspections - the soil temperature at the time application began, measured at 5 to 6 in. deep, if the metam sodium is applied by knife rig injection. <p>Verify that certified commercial applicators keep the original copies of their required records for each metam sodium pesticide application for at least 2 yr.</p> |

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| 9-56. (continued) | <p>Verify that copies of each required record pertaining to a metam sodium application by a certified commercial applicator are filed with the Department by 15 December of the year that the application was made.</p> <p>Verify that the commercial application business performing metam sodium pesticide applications retains copies of the records made by its certified applicators for at least 2 yr.</p> |
| 9-57. Certified applicators must meet safety precaution requirements (ATCP 29.171(6)). | <p>Verify that certified applicators inspecting an area treated with metam sodium pesticide use proper safety equipment and precautions when visiting the treated area.</p> |

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SECTION 10

**NATIONAL HISTORIC PRESERVATION ACT (NHPA)
AND CULTURAL RESOURCES**

Wisconsin Supplement

SECTION 10

NATIONAL HISTORIC PRESERVATION ACT (NHPA) AND CULTURAL RESOURCES

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Definitions

The following definitions were obtained from the Wisconsin Major Historic Preservation Statutes, Chapter 157.

- *Burial Site* - any place where human remains are buried.
- *Director* - the Director of the historical society or his or her formally appointed designee.
- *Disturb* - defacing, mutilating, injuring, exposing, removing, destroying, desecrating, or molesting in any way.

**NATIONAL HISTORIC PRESERVATION ACT (NHPA)
AND CULTURAL RESOURCES**

GUIDANCE FOR WISCONSIN CHECKLIST USERS

Applicability: Refer to
Checklist Items:

Burial Sites 10-1

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| <p>BURIAL SITES</p> <p>10-1. Installations must not cause or permit the disturbance of any burial (Wisconsin Historic Preservation Statutes, Chapter 157, 157.70(2r)).</p> | <p>Verify that no person causes or permits the intentional disturbance of a burial site or cataloged land contiguous to a cataloged burial site.</p> <p>Verify that the Director is notified immediately if it is known or there is reasonable grounds to believe that a burial site has been disturbed.</p> |

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SECTION 11

NATURAL RESOURCES MANAGEMENT

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NATURAL RESOURCES MANAGEMENT

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Definitions

These definitions were obtained from the following the Wisconsin Administrative Code (WAC) Department of Natural Resources (NR) 27, 103.02, 115.03, and 116.04, and Wisconsin Statutes 29.415:

- ***Department*** - the Wisconsin Department of Natural Resources.
- ***Development*** - any artificial change to improved or unimproved real estate, including, but not limited to the construction of buildings, structures, or accessory structures; the construction of additions or substantial improvements to buildings, structures, or accessory structures; the placement of buildings or structures; mining, dredging, filling, grading, paving, excavation, or drilling operations; and the storage, deposition, or extraction of materials.
- ***Endangered Species*** - any species whose continued existence as a viable component of this state's wild animals or wild plants is determined by the Department to be in jeopardy on the basis of scientific evidence.
- ***Floodfringe*** - that portion of the floodplain outside of the floodway, which is covered by flood water during the regional flood. The term floodfringe is generally associated with standing water rather than flowing water.
- ***Floodplain*** - that land which has been or may be covered by flood water during the regional flood. The floodplain includes the floodway, floodfringe, shallow depth flooding, flood storage, and coastal floodplain areas.
- ***Floodway*** - the channel of a river or stream, and those portions of the floodplain adjoining the channel required to carry the regional flood discharge.
- ***Nonconforming Use*** - an existing lawful use or accessory use of a structure, building or development which is not in conformity with the provisions of the floodplain zoning ordinance for the area of the floodplain which it occupies.
- ***Open Space Use*** - a use which has relatively low flood damage potential, such as uses associated with agriculture, recreation, parking, storage yards, or certain sand and gravel operations.
- ***Ordinary High-Water Mark*** - the point on the bank or shore up to which the presence and action of surface water is so continuous as to leave a distinctive mark such as by erosion, destruction or prevention of terrestrial vegetation, predominance of aquatic vegetation, or other easily recognized characteristic. Where the bank or shore at any particular place is of such character that it is difficult or impossible to ascertain where the point of ordinary high-water mark is, recourse may be made the opposite bank of a stream or to other places on the shore of a lake or flowage to determine whether a given stage of water is above or below the ordinary high-water mark.

- *Regional Flood* - a flood determined to be representative of large floods known to have occurred in Wisconsin or which may be expected to occur on a particular lake, river, or stream once in every 100 yr.
- *Shallow Depth Flooding Areas* - those areas where the maximum depth of flooding does not exceed 1 ft in depth nor 6 h in duration during the regional flood.
- *Shorelands* - lands within the following distances from the ordinary high-water mark of navigable waters:
 - 1000 ft from a lake, pond, or flowage
 - 300 ft from a river or stream or to the landward side of the flood plain, whichever distance is greater.
- *Shoreland-Wetland Zoning District* - a zoning district, created as a part of a county shoreland zoning ordinance, comprised of shorelands that are designated as wetlands on the Wisconsin wetland inventory maps prepared by the Department.
- *Surface Waters* - all natural and artificial named and unnamed lakes and all naturally flowing streams within the boundaries of the state, but not including cooling lakes, farm ponds, and facilities constructed for the treatment of wastewaters.
- *Take* - shooting, shooting at, pursuing, hunting, catching, or killing any wild animal; or the cutting, rooting up, severing, injuring, destroying, removing, or carrying away any wild plant.
- *Threatened Species* - any species of wild animals or wild plants which appears likely, within the foreseeable future, on the basis of scientific evidence to become endangered.
- *Wetlands* - an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic vegetation and which has soils indicative of wet conditions.
- *Wild Animal* - any mammal, fish, wild bird, amphibian, reptile, mollusk, crustacean, or arthropod, or any part, products, eggs, or offspring thereof, or the dead body or parts thereof.
- *Wild Plant* - any undomesticated species of the plant kingdom occurring in a natural ecosystem.

NATURAL RESOURCES MANAGEMENT
GUIDANCE FOR WISCONSIN CHECKLIST USERS

| Applicability: | Refer to Checklist Items: |
|--|--------------------------------------|
| Endangered and Threatened Species | 11-1 |
| Wetlands and Shorelands | 11-2 and 11-3 |
| Navigable Waters | 11-4 and 11-5 |
| Floodplains | 11-6 through 11-12 |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|--|--|
| ENDANGERED AND THREATENED SPECIES 11-1. Installations are required to protect threatened or endangered species (Wisconsin Statutes Fish and Game 29.415). | <p>Determine if the installation is exempt from this requirement by Departmental rule or permit.</p> <p>Verify that installations do not take, transport, possess, process or sell any wild animal specified in Appendix 11-1.</p> <p>Verify that installations do not process or sell any endangered or threatened species of wild plant specified in Appendix 11-2.</p> |
| WETLANDS AND SHORELANDS 11-2. Installations must meet specific requirements for the protection of wetlands (WAC NR 103). | <p>Determine if installations have wetland areas.</p> <p>Verify that any activities undertaken by the installation which may impact wetlands have been approved by the Department.</p> <p>Verify that installation activities do not adversely affect the following functional values or uses of wetlands:</p> <ul style="list-style-type: none"> - storm and flood water storage and retention and the moderation of water level fluctuation extremes - hydrologic functions including the following: <ul style="list-style-type: none"> - maintenance of dry season streamflow - discharge of groundwater to a wetland - recharge of groundwater from a wetland to another area - flow of groundwater through a wetland - filtration or storage of sediments, nutrients or toxic substances that would otherwise adversely impact the quality of other waters of the state - shoreline protection against erosion through the dissipation of wave energy and water velocity and anchoring of sediments - habitat for aquatic organisms in the food web - recreational, cultural, educational, scientific and natural aesthetic values and uses. <p>Determine if the installation has areas that have been designated by any county as a shoreland-wetland zoning district.</p> <p>Verify that installations do not conduct the following activities in shoreland-wetland zoning districts:</p> <ul style="list-style-type: none"> - any activity involving filling, flooding, draining, dredging, ditching, tiling or excavating, unless expressly approved by the county zoning district - any activity not permitted in Departmental shoreland-wetland regulations. |

COMPLIANCE CATEGORY:
NATURAL RESOURCES MANAGEMENT
Wisconsin Supplement

| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|--|---|
| 11-3. (continued) | <p>(NOTE: Permitted activities include the following:</p> <ul style="list-style-type: none"> - hiking, fishing, trapping, hunting, swimming, and boating - harvesting of wild crops in a manner that does not injure the natural reproduction of the crops - construction and maintenance of piers, docks and walkways, including those built on pilings.) <p>Verify that installations meet the requirements of county shoreland zoning ordinances including restrictions of the following:</p> <ul style="list-style-type: none"> - minimum lot sizes - minimum building setbacks - tree and shrubbery removal - filling, grading, lagooning, dredging, ditching, and excavating - nonconforming uses. |
| NAVIGABLE WATERS 11-4. Installations must have a permit to conduct specific activities within navigable waters of the state (Wisconsin Statutes 30.01 through 30.99). | <p>Verify that the following activities are conducted in accordance with a valid permit:</p> <ul style="list-style-type: none"> - the deposition of any material or placing of any structure upon the bed of any navigable water where there is no bulkhead line established - the deposition of any material or placing of any structure beyond the established bulkhead line - construct, dredge, or enlarge any artificial waterway, channel, canal, ditch, lagoon, pond, or lake to connect with an existing navigable waterway - grade or otherwise remove topsoil from the bank of any navigable waterway where the area exposed will exceed 10,000 ft² - divert water from lakes or streams - change the course of or straighten a navigable stream - remove any material from the bed of any navigable lake or of any outlying waters of the state <p>Verify that after weed cutting operations in navigable waterways, the cut weeds are removed and do not create a nuisance.</p> |

**COMPLIANCE CATEGORY:
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|---|---|
| FLOODPLAINS <p>11-6. Installations must meet specific requirements for the development of floodway areas (WAC NR 116.12).</p> <p>11-7. Installations must meet specific requirements for the development of floodfringe areas (WAC NR 116.13).</p> | <p>Determine if the installation has any of the following permitted uses and structures in floodway areas:</p> <ul style="list-style-type: none"> - structures that are accessory to permitted open space uses or historical areas and meet the following: <ul style="list-style-type: none"> - they are firmly anchored to prevent them from floating away - all service facilities, such as electrical and heating equipment, are at or above the flood protection elevation for the particular area. - are not expressly prohibited in this requirement - public utilities, roads, streets and bridges provided that: <ul style="list-style-type: none"> - adequate floodproofing measures are provided to the flood protection elevation - construction does not cause any obstruction to flood flows as reflected in the water surface profile based upon existing conditions - uses permitted by the Department provided that: <ul style="list-style-type: none"> - the installations have secured the appropriate permits - necessary amendments are adopted by the municipality to the official floodway lines, regional flood profiles, floodplain zoning maps and floodplain zoning ordinances. <p>Verify that installations do not pursue any developmental activities that will cause the following:</p> <ul style="list-style-type: none"> - an obstruction to flood flows - an increase in regional flood discharge - adversely affect the existing drainage courses or facilities. <p>Verify that, except as provided for in other specific rules, installations do not use floodway areas for the following:</p> <ul style="list-style-type: none"> - structures in, on or over floodway areas that are: <ul style="list-style-type: none"> - designed for human habitation - associated with high flood damage potential - not associated with permanent open space uses - any storage of materials that are buoyant, flammable, explosive or injurious to human, animal, plant, fish or other aquatic life - uses that are not in harmony with, or that may be detrimental to, the uses permitted in the adjoining districts - sewage systems (except portable latrines that are removed during flooding) - wells used to obtain water for ultimate human consumption - solid or hazardous waste disposal facilities - wastewater treatment ponds or facilities - sanitary sewer or water lines. <p>Verify that installations have a permit from the municipality allowing development in floodfringe areas.</p> <p>Verify that development of floodfringe areas is in accordance with permit requirements.</p> |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|--|---|
| <p>11-8. In addition to floodway areas and floodfringe areas, installations must meet requirements for the development of Department-approved floodplain districts in addition to floodway areas and floodfringe areas (WAC NR 116.14).</p> | <p>Verify that installations developing shallow depth flooding areas meet the requirements for the development of floodfringe areas, with the exception that such development may not result in an obstruction to flood flows.</p> <p>Verify that installations developing flood storage districts meet the following requirements:</p> <ul style="list-style-type: none"> - requirements for the development of floodfringe areas - an equal volume of storage is provided to compensate for the volume of storage which is lost when any proposed development would remove flood storage volume. <p>Verify that installations developing coastal floodplain districts meet the requirements for the development of floodfringe areas, with the exception that such development may not be adversely affected by wave run-up along the shore of Lake Michigan or Lake Superior or be associated with a high flood damage potential.</p> |
| <p>11-9. Any installation continuing nonconforming uses or with nonconforming buildings must meet certain requirements (WAC NR 116.15(1)).</p> | <p>(NOTE: These standards apply to the modification of, or addition to any building and to the use of any building or premises that was lawful before the passage of a floodplain zoning ordinance. In this rule, the words modification and addition include, but are not limited to, any alteration, addition, modification, rebuilding or replacement of any such existing building, accessory building or accessory use. Ordinary maintenance repairs are not considered structural repairs, modifications or additions; such ordinary maintenance repairs include internal and external painting, decorating, paneling, the replacement of doors, windows and other nonstructural components; and the maintenance, repair or replacement of existing private sewage systems, water supply systems or connections to public utilities.)</p> <p>Verify that any nonconforming use or nonconforming building is brought into full conformity to floodplain zoning ordinances in any of the following cases:</p> <ul style="list-style-type: none"> - after a discontinuance for more than 12 mo - after any modification or addition that, over the life of the building, would exceed 50 percent of its present equalized assessed value - after destruction or damage that would require restoration costing in excess of 50 percent of the present value. |
| <p>11-10. Installations continuing nonconforming uses or having nonconforming buildings in floodway areas must meet certain requirements (WAC NR 116.15(2) and (4) through (6)).</p> | <p>Verify that modifications or additions to any nonconforming building or any building with a nonconforming use in a floodway area meet the following criteria:</p> <ul style="list-style-type: none"> - a permit, special exception, conditional use or variance has been granted for the change - the amount of obstruction to flood flows is not increased - floodproofing by means other than the use of fill is included. |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
|--|--|
| 11-10. (continued) | <p>Verify that additions or modifications do not include the following:</p> <ul style="list-style-type: none"> - additions to an existing private sewage system - modifications to an existing well used to obtain water for ultimate human consumption. <p>(NOTE: Installations with shallow depth flooding areas, flood storage areas, or coastal floodplain areas may not make structural repairs, modifications or additions to an existing building if the cost exceeds 50 percent of its present equalized assessed value, unless the entire building is permanently changed to conform with floodplains zoning ordinances.)</p> |
| 11-11. Installations continuing nonconforming uses or having nonconforming buildings in floodfringe areas must meet certain requirements (WAC NR 116.15(3)) | <p>Verify that installations have been granted a permit, special exception, conditional use or variance before undertaking modifications or additions to any nonconforming building or any building with a nonconforming use in a floodfringe area.</p> <p>Verify that the permitted modification or addition meets one of the following criteria:</p> <ul style="list-style-type: none"> - is placed on fill - is floodproofed. <p>Verify that additions or modifications do not include the following:</p> <ul style="list-style-type: none"> - additions to an existing private sewage system - modifications to an existing well used to obtain water for ultimate human consumption. <p>(NOTE: An addition to an existing room may be allowed in a floodfringe area on a one time basis only if the addition does not exceed 60 ft² in area, does not exceed 50 percent of the present equalized assessed value of the building, and has been approved by permit, special exception, etc.)</p> |
| 11-12. Installations are required to have a permit in order to develop floodplains (WAC NR 116.21(2)). | <p>Verify that installations with floodplain areas have a permit from the local municipality governing that specific area.</p> |

11 - 10

Appendix 11-1

Wisconsin Endangered Species (WAC NR 27.03)

| Common Name | Scientific Name |
|--------------------------|-------------------------------|
| MAMMALS: | |
| Pine marten | <i>Martes americana</i> |
| Canada lynx | <i>Lynx canadensis</i> |
| Timber wolf | <i>Canis lupus</i> |
| BIRDS: | |
| Peregrine falcon | <i>Falco peregrinus</i> |
| Piping plover | <i>Charadrius melodus</i> |
| Forester's tern | <i>Sterna foresteri</i> |
| Common tern | <i>Sterna hirundo</i> |
| Barn owl | <i>Tyto alba</i> |
| Loggerhead shrike | <i>Lanius ludovicianus</i> |
| Trumpeter swan | <i>Cygnus buccinator</i> |
| Yellow-throated warbler | <i>Dendroica dominica</i> |
| Worm-eating warbler | <i>Helmitheros vermivorus</i> |
| Caspian tern | <i>Sterna caspia</i> |
| Bewick's wren | <i>Thryomanes bewickii</i> |
| REPTILES: | |
| Slender glass lizard | <i>Ophisaurus attenuatus</i> |
| Ornate box turtle | <i>Terrapene ornata</i> |
| Queen snake | <i>Regina septemvittata</i> |
| Western ribbon snake | <i>Thamnophis proximus</i> |
| Northern ribbon snake | <i>Thamnophis sauritus</i> |
| Massasauga | <i>Sistrurus catenatus</i> |
| AMPHIBIANS: | |
| Blanchard's cricket frog | <i>Acris crepitans</i> |

Appendix 11-1 (continued)

| Common Name | Scientific Name |
|-----------------------------------|-------------------------------|
| FISHES: | |
| Gravel chub | <i>Hybopsis x-punctata</i> |
| Striped shiner | <i>Notropis chryscephalus</i> |
| Slender madtom | <i>Noturus exilis</i> |
| Starhead topminnow | <i>Fundulus notti</i> |
| Crystal darter | <i>Ammocrypta asprella</i> |
| Bluntnose darter | <i>Etheostoma chlorosomum</i> |
| Goldeye | <i>Hiodon alosoides</i> |
| Pallid shiner | <i>Notropis annis</i> |
| Skipjack herring | <i>Alosa chrysochloris</i> |
| MUSSELS: | |
| Higgins eye pearly mussel | <i>Lampsilis higginsi</i> |
| Spectacle case | <i>Cumberlandia monodonta</i> |
| Purple wartyback | <i>Cyclonaias tuberculata</i> |
| Butterfly | <i>Ellipsaria lineolata</i> |
| Elephant ear | <i>Elliptio crassidens</i> |
| Snuffbox | <i>Epioblasma triquetra</i> |
| Ebonyshell | <i>Fusconaia ebena</i> |
| Yellow & slough sandshell | <i>Lampsilis teres</i> |
| Bullhead | <i>Plethobasus cyphyus</i> |
| Winged mapleleaf | <i>Quadrula fragosa</i> |
| Rainbow shell | <i>Villosa iris</i> |
| SNAILS: | |
| Hulbricht's vertigo | <i>Vertigo hubrichti</i> |
| Occult vertigo | <i>Vertigo occulta</i> |
| INSECTS: | |
| Pecatonica River mayfly | <i>Acanthametropus</i> |
| A Flat-headed mayfly | <i>Aneporus simplex</i> |
| Northern blue butterfly | <i>Lycaeides idas</i> |
| Giant carrion beetle | <i>Nicrophorus americanus</i> |
| Powesheik skipper | <i>Oarisma powesheik</i> |
| Extra-striped snaketail dragonfly | <i>Ophiogomphus anomalous</i> |
| Pygmy snaketail dragonfly | <i>Ophiogomphus howei</i> |
| Silphium borer moth | <i>Papaipema silphii</i> |
| Phlox moth | <i>Schinia indiana</i> |
| Knobel's riffle beetle | <i>Stenelmis knobeli</i> |

Appendix 11-1 (continued)

Wisconsin Threatened Species

| Common Name | Scientific Name |
|----------------------------|------------------------------------|
| BIRDS: | |
| Great egret | <i>Casmerodius albus</i> |
| Greater prairie chicken | <i>Tympanuchus cupido pinnatus</i> |
| Red-shouldered hawk | <i>Buteo lineatus</i> |
| Red-necked grebe | <i>Podiceps grisegena</i> |
| Cerulean warbler | <i>Dendroica cerulea</i> |
| Acadian flycatcher | <i>Empidonax virescens</i> |
| Bald eagle | <i>Haliaeetus leucocephalus</i> |
| Yellow-crowned night heron | <i>Nycticorax violaceus</i> |
| Kentucky warbler | <i>Oporornis formosus</i> |
| Osprey | <i>Pandion haliaetus</i> |
| Bell's vireo | <i>Vireo bellii</i> |
| Hooded warbler | <i>Wilsonia citrina</i> |
| REPTILES: | |
| Wood turtle | <i>Clemmys insculpta</i> |
| Blanding's turtle | <i>Emydoidea blandingi</i> |
| FISHES: | |
| Speckled chub | <i>Hybopsis aestivalis</i> |
| Blue sucker | <i>Cyclopterus elongatus</i> |
| Black buffalo | <i>Ictiobus niger</i> |
| Longear sunfish | <i>Lepomis megalotis</i> |
| Ozark minnow | <i>Dionda nubila</i> |
| Gilt darter | <i>Percina evides</i> |
| River redhorse | <i>Moxostoma carinatum</i> |
| Greater redhorse | <i>Moxostoma valencienesi</i> |
| Pugnose shiner | <i>Notropis anogenus</i> |
| Redfin shiner | <i>Notropis umbratilis</i> |
| Paddlefish | <i>Polyodon spathula</i> |
| INSECTS: | |
| Swamp metalmark | <i>Calephelis muticum</i> |
| Frosted elfin | <i>Incisalia irus</i> |
| Regal fritillary | <i>Speyeria idalia</i> |

Appendix 11-1 (continued)

| Common Name | Scientific Name |
|-------------------|----------------------------------|
| MUSSELS: | |
| Ellipse | <i>Actinonaias ellipsiformis</i> |
| Slippershell | <i>Alasmidonta viridis</i> |
| Rock pocketbook | <i>Arcidens confragosus</i> |
| Monkeyface | <i>Quadrula metanevra</i> |
| Wartyback | <i>Quadrula nodulata</i> |
| Salamander mussel | <i>Simpsonaias ambigua</i> |
| Buckhorn | <i>Triogonia verrucosa</i> |
| SNAILS: | |
| Wing snaggletooth | <i>Gastrocopta procera</i> |
| Cherrystone drop | <i>Hendersonia occulta</i> |

Appendix 11-2

Wisconsin Endangered Plants (WAC NR 27.03)

| Common Name | Scientific Name |
|------------------------------|---------------------------------|
| Carolina Anemone | <i>Anemone caroliniana</i> |
| No common name | <i>Anemone multifida</i> |
| No common name | <i>Arenaria macrophylla</i> |
| Lake Cress | <i>Armoracia aquatica</i> |
| Purple Milkweed | <i>Asclepias purpurascens</i> |
| Alpine Milk Vetch | <i>Astragalus alpinus</i> |
| Prairie Plum | <i>Astragalus crassicarpus</i> |
| Copper's Milk Vetch | <i>Astragalus neglectus</i> |
| Moonwort | <i>Botrychium lunaria</i> |
| Goblin Fern | <i>Botrychium mormo</i> |
| Marsh Marigold | <i>Caltha natans</i> |
| Wild Hyacinth | <i>Camassia scilloides</i> |
| No common name | <i>Carex crus-corvi</i> |
| No common name | <i>Carex lupuliformis</i> |
| No common name | <i>Carex media</i> |
| Brook Grass | <i>Catabrosa aquatica</i> |
| Stoneroot | <i>Collinsonia canadensis</i> |
| Hemlock-parsley | <i>Conioselinum chinense</i> |
| Beak Grass | <i>Diarrhena americana</i> |
| No common name | <i>Draba lanceolata</i> |
| Spikerush | <i>Eleocharis quadrangulata</i> |
| Harbinger-of-Spring | <i>Eriogonum bulbosa</i> |
| No common name | <i>Fimbristylis puberula</i> |
| Umbrella Sedge | <i>Fuirena pumila</i> |
| Northern Comandra | <i>Geocaulon lividum</i> |
| Pale False Foxglove | <i>Gerardia skinneriana</i> |
| Bog Rush | <i>Juncus stygius</i> |
| Prairie Bush Clover | <i>Lespedeza leptostyria</i> |
| Dotted Blazing Star | <i>Liatris punctata</i> |
| Auricled Twayblade | <i>Listera auriculata</i> |
| Smith Melic Grass | <i>Melica smithii</i> |
| Fassett's Locoweed | <i>Oxytropis campestris</i> |
| Grass-of-Parnassus | <i>Parnassia parviflora</i> |
| Smooth Phlox | <i>Phlox glaberrima</i> |
| Butterwort | <i>Pinguicula vulgaris</i> |
| Heart-leaved Plantain | <i>Plantago cordata</i> |
| Prairie White-fringed Orchid | <i>Platanthera leucophaea</i> |
| Pink Milkwort | <i>Polygala incarnata</i> |
| Spotted Pond Weed | <i>Potamogeton pulcher</i> |
| Rough White Lettuce | <i>Prenanthes aspera</i> |

Appendix 11-2 (continued)

| Common Name | Scientific Name |
|-----------------------------|---------------------------------|
| Great White Lettuce | <i>Prenanthes crepidinea</i> |
| Pine-drops | <i>Pterospora andromedea</i> |
| Small Shinleaf | <i>Pyrola minor</i> |
| Seaside Crowfoot | <i>Ranunculus cymbalaria</i> |
| Small Yellow Water Crowfoot | <i>Ranunculus gmelinii</i> |
| Lapland Rosebay | <i>Rhododendron lapponicum</i> |
| Wild Petunia | <i>Ruellia humilis</i> |
| Sand Dune Willow | <i>Salix cordata</i> |
| No common name | <i>Scirpus cespitosus</i> |
| Netted Nut-Rush | <i>Scleria reticularis</i> |
| Small Skullcap | <i>Scutellaria parvula</i> |
| No common name | <i>Selaginella selaginoides</i> |
| Blue-stemmed Goldenrod | <i>Solidago caesia</i> |
| Lake Huron Tansy | <i>Tanacetum huronense</i> |
| Hairy Meadow Parsnip | <i>Thaspium barbinode</i> |
| Foamflower | <i>Tiarella cordifolia</i> |
| Dwarf Bilberry | <i>Vaccinium cespitosum</i> |
| Mountain Cranberry | <i>Vaccinium vitis-idaea</i> |
| Squashberry | <i>Viburnum edule</i> |
| Violet | <i>Viola fimbriatula</i> |

Appendix 11-2 (continued)

Wisconsin Threatened Plants

| Common Name | Scientific Name |
|------------------------------|--------------------------------------|
| Northern Monkshood | <i>Aconitum novaboracense</i> |
| Muskroot | <i>Adoxa moschatellina</i> |
| Yellow Giant Hyssop | <i>Agastache nepetoides</i> |
| Thickspike Wheatgrass | <i>Agropyron dasystachyum</i> |
| Wooly Milkweed | <i>Asclepias lanuginosa</i> |
| Prairie Milkweed | <i>Asclepias sullivantii</i> |
| Pinnatifid Spleenwort | <i>Asplenium pinnatifidum</i> |
| Forked Aster | <i>Aster furcatus</i> |
| Kitten Tails | <i>Besseyea bullii</i> |
| Prairie Indian Plaintain | <i>Cacalia tuberosa</i> |
| Sand Reed | <i>Calamovilfa longifolia</i> |
| Calypso Orchid | <i>Calypso bulbosa</i> |
| Carey's Sedge | <i>Carex careyana</i> |
| No common name | <i>Carex concinna</i> |
| Coast Sedge | <i>Carex exilis</i> |
| Handsome Sedge | <i>Carex formosa</i> |
| Garbers Sedge | <i>Carex garberi</i> |
| Lenticular Sedge | <i>Carex lenticularis</i> |
| No common name | <i>Carex michauxiana</i> |
| Drooping Sedge | <i>Carex prasina</i> |
| Prairie Thistle | <i>Cirsium hillii</i> |
| Dune Thistle | <i>Cirsium pitcheri</i> |
| Ram's Head Lady's-slipper | <i>Cypripedium arietinum</i> |
| White Lady's-slipper | <i>Cypripedium candidum</i> |
| Sundew | <i>Drosera anglica</i> |
| Sundew | <i>Drosera linearis</i> |
| Purple Coneflower | <i>Echinacea pallida</i> |
| Beaked Spike Rush | <i>Eleocharis rostellata</i> |
| Western Fescue | <i>Festuca occidentalis</i> |
| Blue Ash | <i>Fraxinus quadrangulata</i> |
| Yellowish Gentian | <i>Gentiana alba</i> |
| Round Stemmed False Foxglove | <i>Gerardia gattingeri</i> |
| Blue Ash | <i>Fraxinus quadrangulata</i> |
| Tuberclled Orchid | <i>Habenaria flava var. herbiola</i> |
| Round Fruited St. Johns Wort | <i>Hypericum sphaerocarpum</i> fR |
| Dwarf Lake Iris | <i>Iris lacustris</i> |
| Slender Bush Clover | <i>Lespedeza virginica</i> |
| Bladderpod | <i>Lesquerella ludoviciana</i> |
| Broad-leaved Twayblade | <i>Listera convallarioides</i> |
| Brittle Prickly Pear | <i>Opuntia fragilis</i> |
| Small Round-leaved Orchis | <i>Orchis rotundifolia</i> |
| Clustered Broomrape | <i>Orobanche fasciculata</i> |

Appendix 11-2 (continued)

| Common Name | Scientific Name |
|----------------------------|--|
| Grass-of-Parnassus | <i>Parnassia palustris</i> |
| Wild Quinine | <i>Parthenium integrifolium</i> |
| Sweet Coltsfoot | <i>Petasites sagittatus</i> |
| Bog Bluegrass | <i>Poa paludigena</i> |
| Braun's Holly Fern | <i>Polystichum braunii</i> |
| Prairie-parsley | <i>Polytaenia nuttallii</i> |
| Algal-leaved Pondweed | <i>Potamogeton confervoides</i> |
| Sheathed Pond Weed | <i>Potamogeton vaginatus</i> |
| Bald Rush | <i>Psilocarya scirpoidea</i> |
| Hawthorn-leaved Gooseberry | <i>Ribes oxyacanthoides</i> |
| Dune Goldenrod | <i>Solidago spathulata</i> var. <i>gillmani</i> |
| False Asphodel | <i>Tofieldia glutinosa</i> |
| Snow Trillium | <i>Trillium nivale</i> |
| Spike Trisetum | <i>Trisetum spicatum</i> |
| Marsh Valerian | <i>Valeriana sitchensis</i> |
| Violet | <i>Viola novae-angliae</i> |

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| INSTALLATION: | COMPLIANCE CATEGORY: NATURAL RESOURCES MANAGEMENT Wisconsin Supplement | DATE: | REVIEWER(S): |
| STATUS NA C RMA | REVIEWER COMMENTS: | | |
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SECTION 12

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

Wisconsin Supplement

SECTION 12

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

Wisconsin Supplement

Regulations promulgated under the authority of *NEPA* are applicable to installations in Wisconsin. See Protocol 12 in the U.S. ECAS Manual for Federal, Army, and Department of Defense (DOD) requirements.

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| INSTALLATION: | COMPLIANCE CATEGORY: NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) Wisconsin Supplement | DATE: | REVIEWER(S): |
| STATUS NA C RMA | REVIEWER COMMENTS: | | |
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SECTION 13

ASBESTOS MANAGEMENT PROGRAM

Wisconsin Supplement

SECTION 13

ASBESTOS MANAGEMENT PROGRAM

Wisconsin Supplement

Definitions

These definitions were obtained from the Department of Natural Resources, Chapter NR 447, Control of Asbestos Emissions.

- **Adequately Wetted** - sufficiently mixed or coated with water or an aqueous solution to prevent dust emissions.
- **Asbestos-Containing Waste Material** - any waste which contains commercial asbestos and is generated by a source subject to NR 447, including asbestos mill tailings, control device asbestos waste, friable asbestos waste material, and bags or containers that previously contained commercial asbestos.
- **Control Device** - any asbestos-containing waste material that is collected in a pollution control device.
- **Demolition** - the wrecking or taking of any load-supporting structural member and any related removing or stripping of friable asbestos materials.
- **Emergency Renovation** - a renovation operation that results from sudden, unexpected events, and is not a planned renovation. Operations necessitated by nonroutine failures of equipment are included.
- **Friable Asbestos Material** - any material that contains more than 1 percent asbestos by weight and that can be crumbled, pulverized, or reduced to powder, when dry, by hand pressure.
- **Renovation** - the removing or stripping of friable asbestos material used on any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member. Operations in which load-supporting structural members are wrecked or taken out are excluded.
- **Stripping** - taking off friable asbestos materials from any pipe, duct, boiler, tank, reactor, turbine, furnace, or structural member.
- **Structural Member** - any load-supporting member, such as beams and load-supporting walls; or any nonload-supporting member, such as ceilings and nonload-supporting walls.
- **Visible Asbestos Emissions** - any emissions which are visually detectable without the aid of instruments and which contain particulate asbestos material.

ASBESTOS MANAGEMENT PROGRAM
GUIDANCE FOR WISCONSIN CHECKLIST USERS

| Applicability: | Refer to Checklist Items: |
|-----------------------|--------------------------------------|
| Permits | 13-1 |
| Asbestos Removal | 13-2 through 13-8 |
| Disposal Sites | 13-9 |

COMPLIANCE CATEGORY:
ASBESTOS MANAGEMENT PROGRAM
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>PERMITS</p> <p>13-1. Installations that conduct renovation or demolition operations involving friable asbestos-containing material (ACM) must meet specific permit requirements (WAC Sections NR 406.01, and 406.04(1)(n) and (1)(m)).</p> | <p>Verify that each renovation or demolition operation involving friable ACM conducted on installation premises meets one of the following conditions:</p> <ul style="list-style-type: none"> - the amount of ACM involved in the operation is less than 260 linear feet on pipes or less than 160 ft² on other components - the installation has filed an asbestos abatement notice of intention with the Department prior to beginning the operation and meets any conditions imposed by the Department - the installation has obtained an air pollution control permit and meets all permit conditions. |
| <p>ASBESTOS REMOVAL</p> <p>13-2. Notification of asbestos removal activities is required (WAC NR 447.07).</p> | <p>Verify that written notice of demolition is made to the Department at least 10 days before demolition begins when the amount of asbestos material is at least 260 linear feet on pipes or at least 160 ft² on other facility components.</p> <p>Verify that written notice of demolition is made to the Department at least 20 days before demolition begins when the amount of asbestos material is less than 260 linear feet on pipes or less than 160 ft² on other facility components.</p> <p>Verify that written notice is made to the Department as soon as possible before demolition begins if the building is being demolished under order of State or local government.</p> <p>Verify that written notice is made to the Department as soon as possible before renovation begins.</p> |
| <p>13-3. Procedures for removal of ACM materials from a facility must meet specific requirements (WAC NR 447.08(1) through (3)).</p> | <p>Verify that friable asbestos materials are removed from a facility or residential dwelling before any wrecking or dismantling that would break up the materials or preclude access to the materials for subsequent removal, unless the following conditions are met:</p> <ul style="list-style-type: none"> - the friable asbestos is on a component that is encased in concrete or other similar material - the materials are adequately wetted whenever exposed during demolition. |

COMPLIANCE CATEGORY:
ASBESTOS MANAGEMENT PROGRAM
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>13-3. (continued)</p> <p>13-4. Management of friable ACMs and components from a facility or dwelling must meet specific requirements (WAC NR 447.08(4) and (5)).</p> <p>13-5. When the temperature at the point of wetting is below 32 °F, specific requirements must be met for the management of friable ACMs (WAC NR 447.08(6)).</p> | <p>Verify that when components covered or coated with friable asbestos materials are taken out as units or in sections, the following conditions are met:</p> <ul style="list-style-type: none"> - friable asbestos materials exposed during cutting or disjointing operations are adequately wet - units or sections are carefully lowered (not thrown or dropped) to ground level. <p>Verify that friable asbestos material is adequately wet when it is being stripped from components before removal from a facility or dwelling.</p> <p>(NOTE: The Department may determine that an exhaust ventilation and collection system may be used if wetting will damage removal equipment.)</p> <p>Verify that after components have been removed from a facility or dwelling, one of the following requirements is met:</p> <ul style="list-style-type: none"> - the friable ACMs are adequately wet during stripping - a local exhaust ventilation and collection system captures the particulate ACMs without exhibiting visible emissions to the outside air. <p>Verify that the management of friable ACMs that have been removed or stripped meets the following requirements:</p> <ul style="list-style-type: none"> - adequately wet to insure that they remain wet until they are collected for disposal - carefully lowered to the ground or lower floor without dropping or throwing them - transport the materials to the ground via dust-tight chutes or containers if they have been removed or stripped more than 50 ft above ground level and were not removed as units or in sections. <p>Determine if friable ACMs are removed or stripped when the temperature at the point of wetting is below 32 °F.</p> <p>Verify that components coated or covered with friable ACMs are removed as units or in sections to the maximum extent possible.</p> <p>Verify that a local exhaust ventilation and collection system that exhibits no visible emissions to the outside air is used to capture ACMs.</p> <p>Verify that materials are carefully lowered to the ground or lower floors.</p> <p>Verify that if the materials are stripped more than 50 ft above ground level and not removed as units or in sections, the materials are transported to the ground via dust-tight chutes or containers.</p> |

**COMPLIANCE CATEGORY:
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| <p>13-6. Facilities and dwellings being demolished under governmental order because they are structurally unsound must meet specific asbestos management requirements (WAC NR 447.08(7)).</p> | <p>Verify that when facilities and dwellings are being demolished the portions containing friable ACM are adequately wet during the wrecking operation.</p> |
| <p>13-7. The handling of asbestos containing waste material from removal or demolition operations must meet specific requirements (WAC NR 447.13).</p> | <p>Verify that all asbestos containing waste material meets the following disposal standards:</p> <ul style="list-style-type: none"> - deposited at a disposal site approved by the Division for disposal of ACM - discharges no visible emissions to the outside air during the collection, processing, packaging, transporting or disposition of the material. <p>Verify that if the ACM from control devices is treated with water to form a slurry the following requirements are met:</p> <ul style="list-style-type: none"> - seal all asbestos-containing waste material in leak-tight containers while wet - label containers as follows <p style="text-align:center">CAUTION! CONTAINS ASBESTOS - AVOID OPENING OR BREAKING CONTAINER BREATHING ASBESTOS IS HAZARDOUS TO YOUR HEALTH</p> <ul style="list-style-type: none"> - process ACM into nonfriable forms - use an alternative disposal method that was received prior approval from the Department. |
| <p>13-8. When air cleaning is used to prevent emissions to the outside air, the filtering equipment must meet specific standards (WAC NR 447.15).</p> | <p>Verify that fabric filter collection devices meet the following requirements:</p> <ul style="list-style-type: none"> - operated at a pressure drop of no more than 4 in. water gauge, as measured across the fabric filter - ensure that the air flow permeability does not exceed 30 ft³/min/ft² for woven fabrics or 35 ft³/min/ft² for felted fabrics - ensure that felted fabric weighs at least 14 oz/yd² and is at least 1/16 in. thick throughout - avoid the use of synthetic fabrics that contain fill yarn other than that which is spun. <p>Verify that bypass devices are only used during upset or emergency conditions and only as long as it takes to shut down the operation generating the particulate asbestos material.</p> <p>(NOTE: The Department may authorize variations and alternative filtering equipment.)</p> |

COMPLIANCE CATEGORY:
ASBESTOS MANAGEMENT PROGRAM
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: | | | | | | | | |
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| <p>DISPOSAL SITES</p> <p>13-9. Active asbestos waste disposal sites must meet specific requirements (WAC NR 447.17).</p> | <p>Verify that one of the following requirements is met:</p> <ul style="list-style-type: none"> - no visible emissions are emitted to the outside air - at the end of each operating day, or at least once every 24-h period while the site is in continuous operation, the asbestos-containing waste material is covered with <ul style="list-style-type: none"> - at least 6 in. of compacted non-ACM - resinous or petroleum-based (or Department approved dust suppression agent) - a Department approved alternative control method is used. <p>Verify that warning signs are displayed at all entrances and at intervals of 330 ft or less along the property line or along the perimeter of the sections of the site where ACM is deposited.</p> <p>Verify that the warning signs meet the following criteria:</p> <ul style="list-style-type: none"> - posted in such a manner and location that a person can easily read the legend - conform with the 20 in. by 14 in. upright format specified in 29 CFR 1910.145(d)(4) - display the following legend in the lower panel with letter sizes and styles of a visibility at least equal to these: <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 40%;">Legend</th> <th style="text-align: left;">Notation</th> </tr> </thead> <tbody> <tr> <td style="vertical-align: top;"> ASBESTOS WASTE DISPOSAL SITE </td><td style="vertical-align: top;">2.5 cm (1 in.) Sans Serif, Gothic, or Block</td> </tr> <tr> <td style="vertical-align: top;"> DO NOT CREATE DUST </td><td style="vertical-align: top;">1.9 cm (3/4 in.) Sans Serif, Gothic, or Block</td> </tr> <tr> <td style="vertical-align: top;"> BREATHING ASBESTOS DUST IS HAZARDOUS TO YOUR HEALTH </td><td style="vertical-align: top;">14 point Gothic</td> </tr> </tbody> </table> <ul style="list-style-type: none"> - spacing between any two lines is equal to the height of the upper of the two lines. <p>Verify that the perimeter of the disposal site is fenced in a manner adequate to deter access by the general public.</p> <p>(NOTE: If a natural barrier adequately deters access by the general public, warning signs and fencing are not required.)</p> | Legend | Notation | ASBESTOS WASTE DISPOSAL SITE | 2.5 cm (1 in.) Sans Serif, Gothic, or Block | DO NOT CREATE DUST | 1.9 cm (3/4 in.) Sans Serif, Gothic, or Block | BREATHING ASBESTOS DUST IS HAZARDOUS TO YOUR HEALTH | 14 point Gothic |
| Legend | Notation | | | | | | | | |
| ASBESTOS WASTE DISPOSAL SITE | 2.5 cm (1 in.) Sans Serif, Gothic, or Block | | | | | | | | |
| DO NOT CREATE DUST | 1.9 cm (3/4 in.) Sans Serif, Gothic, or Block | | | | | | | | |
| BREATHING ASBESTOS DUST IS HAZARDOUS TO YOUR HEALTH | 14 point Gothic | | | | | | | | |

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| INSTALLATION: | COMPLIANCE CATEGORY: ASBESTOS MANAGEMENT PROGRAM Wisconsin Supplement | DATE: | REVIEWER(S): |
| STATUS NA C RMA | REVIEWER COMMENTS: | | |
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SECTION 14

NOISE ABATEMENT

Wisconsin Supplement

SECTION 14

NOISE ABATEMENT

Wisconsin Supplement

According to the Wisconsin Department of Transportation, Bureau of Aeronautics, Wisconsin has no statewide regulations concerning airport and airplane noise control.

The Department of Transportation, Motor Vehicles Division (MVD), regulates vehicle noise.

NOISE ABATEMENT
GUIDANCE FOR WISCONSIN CHECKLIST USERS

Applicability: Refer to
Checklist Items:

Motor Vehicle Noise Control 14-1

| COMPLIANCE CATEGORY: NOISE ABATEMENT Wisconsin Supplement | |
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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
| MOTOR VEHICLE NOISE CONTROL 14-1. Motor vehicles must meet specific noise control requirements (Wisconsin Administrative Code (WAC) MVD 5.24(c)). | Verify that the motor vehicle does not produce excessive noise, indicating an illegal, worn out, or modified muffler. |

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| INSTALLATION: | COMPLIANCE CATEGORY: NOISE ABATEMENT Wisconsin Supplement | DATE: | REVIEWER(S): |
| STATUS NA C RMA | REVIEWER COMMENTS: | | |
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SECTION 15

RADON PROGRAM

Wisconsin Supplement

SECTION 15

RADON PROGRAM

Wisconsin Supplement

Wisconsin has no specific regulations requiring radon monitoring, although the state does have legislation authorizing a program of measuring radon gas accumulations in public buildings. See protocol 15 in the U.S. ECAS Manual for Army and Department of Defense (DOD) requirements.

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| INSTALLATION: | COMPLIANCE CATEGORY: RADON PROGRAM Wisconsin Supplement | DATE: | REVIEWER(S): |
| STATUS NA C RMA | REVIEWER COMMENTS: | | |
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SECTION 16

ENVIRONMENTAL PROGRAM MANAGEMENT (EPM)

Wisconsin Supplement

SECTION 16

ENVIRONMENTAL PROGRAM MANAGEMENT (EPM)

Wisconsin Supplement

This protocol has no specific, applicable state regulations. See Protocol 16 in the U.S. ECAS Manual for Army requirements.

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| INSTALLATION: | COMPLIANCE CATEGORY: ENVIRONMENTAL PROGRAM MANAGEMENT (EPM) Wisconsin Supplement | DATE: | REVIEWER(S): |
| STATUS NA C RMA | REVIEWER COMMENTS: | | |
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SECTION 17

HAZARDOUS MATERIALS MANAGEMENT

Wisconsin Supplement

SECTION 17

HAZARDOUS MATERIALS MANAGEMENT

Wisconsin Supplement

The following national testing laboratory standards are incorporated by reference in the Wisconsin Administrative Code (WAC) of the Department of Industry, Labor and Human Relations (ILHR), from the Register of April 1991, Chapter 10, *Flammable and Combustible Liquids*, sections 25 through 27.

American Petroleum Institute (API):

- *Welded Steel Tanks For Oil Storage*, API Standard No. 650, 8th Edition, 1988
- *Recommended Practice for Abandonment or Removal of Used Underground Service Station Tanks*, API Publication 1604, 2nd Edition, 1987
- *Installation of Underground Petroleum Storage Systems*, API Publication 1615, 4th Edition, 1987
- *Recommended Practice for Bulk Liquid Stock Control at Retail Outlets*, API Publication 1621, 4th Edition, 1987
- *Recommended Practice for Interior Lining of Existing Steel Underground Storage Tanks*, API Publication 1631, 2nd Edition, 1987
- *Cathodic Protection of Underground Petroleum Storage Tanks and Piping Systems*, API Publication 1632, 2nd Edition, 1987
- *Cleaning Petroleum Storage Tanks*, API Publication 2015, 3rd Edition, 1985
- *Repairing Crude Oil Liquified Petroleum Gas and Product Pipelines*, API Publication 2200, 2nd Edition, 1983.

American National Standards Institute (ANSI):

- *Chemical Plant and Petroleum Refinery Piping*, ANSI/American Society of Mechanical Engineers (ASME) B31.3, 1990
- *Liquid Petroleum Transportation Piping Systems*, ANSI/ASME B31.4, 1989
- *Standard on Welded and Seamless Wrought-Steel Pipe*, ANSI/ASME B36.10M, 1985.

American Society for Testing and Materials (ASTM):

- *Standard Test Method for Penetration of Bituminous Materials*, ASTM D5-86
- *Standard Test Method for Flash Point by Tag Closed Tester*, ASTM D56-87
- *Standard Method for Distillation of Petroleum Products*, ASTM D86-82
- *Standard Test Methods for Flash Point by Pensky-Martens Closed Tester*, ASTM D93-85
- *Standard Test Method for Vapor Pressure of Petroleum Products (Rein Method)*, ASTM D323-82
- *Standard Test Methods for Flash Point of Liquids by Setaflash Closed Tester*, ASTM D3278-82
- *Standard Test Methods for Flash Point by Setaflash Closed Tester*, ASTM D3828-86
- *Specification for Glass-Fiber-Reinforced Polyester Underground Petroleum Storage Tanks*, ASTM D4021-86.

Association for Composite Tanks (ACT):

- *Specifications for Fabrication of FRP Clad/Composite Underground Storage Tanks*, Standard ACT-100, 1989.

USEPA, Office of Underground Storage Tanks (USTs):

- *Standard Test Procedures for Evaluating Leak Detection Methods: Volumetric Tank Tightness Test Methods*, March 1990
- *Standard Test Procedures for Evaluating Leak Detection Methods: Nonvolumetric Tank Tightness Test Methods*, March 1990
- *Standard Test Procedures for Evaluating Leak Detection Methods: Automatic Tank Gauging Systems*, March 1990
- *Standard Test Procedures for Evaluating Leak Detection Methods: Liquid-Phase Out-of-Tank Product Testers*, March 1990
- *Standard Test Procedures for Evaluating Leak Detection Methods: Vapor-Phase Out-of-Tank Product Testers*, March 1990
- *Standard Test Procedures for Evaluating Leak Detection Methods: Statistical Inventory Reconciliation Methods*, June 1990.

National Association of Corrosion Engineers (NACE):

- *Recommended Practice, Control of External Corrosion on Underground or Submerged Metallic Piping Systems*, NACE Standard RP-01-69, 1983 Revision
- *Recommended Practice, Control of External Corrosion of Metallic Buried, Partially Buried, or Submerged Liquid Storage Systems*, NACE Standard RP-02-85, 1985 Edition.

National Fire Protection Association (NFPA):

- *Standard for the Installation of Sprinkler Systems*, NFPA No. 13-1989
- *Standard for Dry Chemical Extinguishing Systems*, NFPA No. 17-1990
- *Flammable and Combustible Liquids Code*, NFPA No. 30-1987
- *Automotive and Marine Service Station Code*, NFPA No. 30A-1987
- *Standard for Spray Application Using Flammable and Combustible Materials*, NFPA No. 33-1989
- *Standard for Dipping and Coating Processes Using Flammable or Combustible Liquids*, NFPA NO. 34-1989
- *Standard for the Manufacture of Organic Coatings*, NFPA No. 35-1987
- *Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines*, NFPA No. 37-1990
- *Standard on Fire Protection for Laboratories Using Chemicals*, NFPA No. 45-1986
- *Standard on Automatic Fire Detectors*, NFPA No. 72E-1987
- *Standard for Fire Doors and Windows*, NFPA No. 80-1990
- *Standard for Tank Vehicles for Flammable and Combustible Liquids*, NFPA No. 385-1990.

National Leak Prevention Association (NLPA):

- *Spill Prevention, Minimum 10-Year Life Extension of Existing Steel Underground Storage Tanks by Lining Without the Addition of Cathodic Protection*, NLPA Standard 631, Second Edition, 1988
- *Internal Inspection of Steel Tanks for Upgrading With Cathodic Protection Without Internal Lining*, NLPA Standard 632, Draft January 1989.

Petroleum Equipment Institute (PEI), *Recommended Practices for Installation of Underground Liquid Storage Systems*, PEI Publication RP100-90, 1990.

Steel Tank Institute (STI):

- *Specification for STI-P3 System of External Corrosion Protection of Underground Steel Storage Tanks*, 1990
- *Standard for Dual Wall Underground Steel Storage Tanks*, STI F841-88
- *Recommended Practice for Corrosion Protection of Underground Piping Networks Associated with Liquid Storage and Dispensing Systems*, STI R892-89
- *Specification for External Corrosion Protection of FRP Composite Steel Underground Storage Tanks*, STI F894-90.

Underwriters Laboratories (UL):

- *Steel Underground Tanks for Flammable and Combustible Liquids*, UL Standard 58 - 1985, 8th Edition with 4/86 Revisions
- *Standard for Steel Inside Tanks for Oil-Burner Fuel*, UL Standard 80-1980 (R1985)
- *Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids*, UL Standard 142 - 1987, 6th Edition with 9/87 Revisions
- *Pipe Connectors for Flammable and Combustible Liquids and LP-Gas*, UL Standard 567 - 1989
- *Outline of Proposed Investigation for Nonmetallic Underground Piping for Petroleum Products*, UL Subject 971
- *Glass-Fiber Reinforced Plastic Underground Storage Tanks for Petroleum Products*, UL Standard 1316 - 1986
- *Corrosion Protection Systems for Underground Storage Tanks*, UL Standard 1746 - 1989.

Underwriters Laboratories of Canada (UL CAN):

- *Standard for Galvanic Corrosion Protection Systems for Underground Tanks for Flammable and Combustible Liquids*, UL CAN 4-S603.1-M85
- *Standard for Steel Underground Tanks for Flammable and Combustible Liquids*, UL CAN 4-S603-M85
- *Standard for Isolation Bushings for Steel Underground Tanks Protected with Coatings and Galvanic Systems*, UL CAN 4-S631-M84
- *Standard for Reinforced Plastic Underground Tanks for Petroleum Products*, UL CAN 4-S615-M83
- *Guide for Glass Fiber Reinforced Plastic Pipe and Fittings for Flammable Liquids*, ULC Subject C107C - M1984
- *Flexible Underground Hose Connectors for Flammable and Combustible Liquids*, UL CAN 4-S633-M84.

Definitions

The following definitions are taken from the Wisconsin Administrative Code of the Department of Industry, Labor and Human Relations, Chapter ILHR 10, *Flammable and Combustible Liquids*, from the Register of April 1991.

- **Ancillary Equipment** - any device including piping, fittings, flanges, valves, and pumps used to distribute, meter, or control the flow of regulated substances to and from a UST.
- **Approved** - acceptable to the Department.
- **Authorized Deputy** - a person authorized by the Department to perform duties.
- **Automatic Pump** - a pump that is not an integral part of an oil burner that automatically pumps oil from the supply tank and delivers the oil by gravity under a constant head to an oil-burning appliance. The pump is designed to stop pumping automatically in case of total breakage of the oil supply line between the pump and the appliance.
- **Auxiliary Tank** - for an oil-burning appliance, a tank having a capacity of 60 gal or less listed for installation in the supply piping between a burner and its main fuel supply tank. It may be included as an integral part of an automatic pump or a transfer pump, or may be a separate tank.
- **Beneath the Surface of the Ground** - beneath the ground surface or otherwise covered with earthen materials.
- **Blaster** - any individual holding a valid blaster's license issued by the Department.
- **Blasting** - any method of loosening, moving, or shattering masses of solid matter by use of an explosive.
- **Blasting Agent** - any explosive material or mixture, consisting of a fuel and oxidizer, intended for blasting, not otherwise classified as an explosive, if the material or mixture cannot be detonated by a No. 8 test detonator when unconfined.
- **Blasting Operation** - any operation, enterprise, or activity involving the use of blasting.
- **Bulk Plant** - that portion of a property where liquids are received by tank vessel, pipelines, tank car, or tank vehicle and are stored or blended in bulk for the purpose of distributing such liquids by tank vessel, pipeline, tank car, tank vehicle, portable tank, or container.
- **Cathodic Protection** - a technique to prevent corrosion of a metal surface by making that surface the cathode of an electrochemical cell. A tank system may be cathodically protected through the application of either galvanic anode or impressed current.
- **CERCLA** - the *Comprehensive Environmental Response, Compensation, and Liability Act of 1980*, as amended.
- **Certified Cleaner** - a person certified by the Department to remove accumulated sludges and remaining product from tanks that are to be closed, undergo a change-in-service, or otherwise completely emptied and inerted.
- **Certified Inspector** - a person certified by the Department to inspect storage tank systems.

- ***Certified Remover*** - a person who is certified by the Department to remove storage tank systems.
- ***Change-in-Service*** - continued use of a storage tank system that previously stored a regulated substance to store a nonregulated substance.
- ***Class I Liquids*** - flammable liquids.
- ***Combustible Liquid*** - a liquid having a flash point at or above 100 °F. Combustible Liquids are subdivided as follows:
 - Class II Liquids: those having flash points at or above 100 °F and below 140 °F.
 - Class III Liquids: Class IIIA liquids exclusive of class IIIB liquids.
- ***Community*** - a city, village, or built-up inhabited area.
- ***Compatible*** - the ability of two or more substances to maintain their respective physical and chemical properties upon contact with one another for the design life of the tank system under conditions likely to be encountered in the UST system.
- ***Connected Piping*** - all underground piping including valves, elbows, joints, flanges, and flexible connectors attached to a tank system through which regulated substances flow.
- ***Department*** - the Department of Industry, Labor, and Human Relations (ILHR).
- ***Detonator*** - any device containing a detonating charge that is used for initiating detonation in an explosive, including, but not limited to, electric blasting caps of instantaneous and delay types, blasting caps for use with safety fuses, detonating cord delay connectors, and nonelectric instantaneous and delay blasting caps.
- ***Existing*** - installed or in place on or prior to 1 May 1991.
- ***Existing Tank System*** - a tank system used to contain an accumulation of regulated substances or for which installation has commenced on or prior to 1 May 1991. Installation is considered to have commenced if the operator has obtained all Federal, state, and local approvals or permits necessary to begin physical construction of the tank system site or installation of the tank system and a continuous onsite physical construction or installation program has begun.
- ***Explosive*** - any chemical compound, mixture or device, the primary or common purpose of which is to function by explosion unless the compound, mixture or device is otherwise classified by the Department by rule.
- ***Explosive Materials*** - explosives, blasting agents, and detonators, including, but not limited to, dynamite and other high explosives, slurries, emulsions, water gels, blasting agents, black powder, initiating explosives, detonators, safety fuses, squibs, detonating cord, igniter cord, and igniters.
- ***Flammable Liquid*** - a liquid having flash point below 100 °F and having a vapor pressure not exceeding 40 psia at 100 °F. These materials are also known as Class I liquids. Class I liquids are subdivided as follows:
 - Class IB: those liquids having flash points below 73 °F and having a boiling point at or above 100 °F.
 - Class IC: those liquids having flash points at or above 73 °F and below 100 °F.

- **Flash point** - the minimum temperature at which a flammable or combustible liquid will give off sufficient flammable vapors to form an ignitable mixture with air near the surface of the liquid or within the vessel as determined by the following test methods:
 - ASTM D56: *Standard Test Method for Flash Point by Tag Closed Tester*, for liquids having a viscosity of 45 SUS or more at 100 °F and a flash point of 200 °F or higher
 - ASTM D93: *Standard Test Method for Flash Point by Pensky-Martens Closed Tester*, for liquids having a viscosity less than 45 SUS or more at 100 °F or a flash point of 200 °F or higher
 - as an alternative, ASTM D3278: *Standard Test Method for Flash Point of Liquids by Setaflash Closed Tester*, may be used for paints, enamels, lacquers, varnishes and related products and their components having flash points between 32 °F and 230 °F, and having a viscosity lower than 150 stokes at 77 °F
 - as an alternate, ASTM D3828: *Standard Test Method for Flash Point by Setaflash Closed Tester*, may be used for testing aviation turbine fuels.
- **Flow Through Process Tank** - any tank that is an integral part of a production process through which there is a steady, variable, recurring, or intermittent flow of materials during the operation of the process. Flow-through process tanks do not include tanks used for the storage of materials prior to their introduction into the production process or for storage of finished products or byproducts from the production process.
- **Gathering Lines** - any pipeline, equipment, facility or building used in the transportation of oil or gas during oil or gas production or gathering operations.
- **Heating Oil** - petroleum that is No. 1, No. 2, No. 4-light, No. 4-heavy, No. 5-light, No. 5-heavy, and No. 6 technical grades of fuel oil; other residual fuel oils (including Navy Special Fuel Oil and Bunker C); and other fuels when used as substitutes for one of these fuel oils. Heating oil is typically used in the operation of heating equipment, boilers, or furnaces.
- **High Explosives** - explosive materials which are characterized by a very high rate of reaction, high pressure development, and the presence of a detonation wave in the explosion.
- **Important Building** - a building occupied by one or more persons for other than incidental use or a building that has a high hazard use or a building that is sited with respect to a UST system so that it will have a detrimental effect on release response or fire control activities.
- **Liquid** - a substance that is neither solid nor gas at standard conditions of temperature, 60 °F, and pressure, 14.7 psia.
- **Liquid Trap** - sumps, well cellars, and other traps used in association with oil and gas production, gathering, and extraction operations including gas production plants, for the purpose of collecting oil, water and other liquids. The liquid traps may temporarily collect liquids for subsequent disposition or reinjection into a production or pipeline stream, or may collect and separate liquids from a gas stream.
- **Listed** - equipment or materials to which has been attached a label, symbol or other identifying mark of an organization acceptable to the Department and concerned with product evaluation, that maintains periodic inspections of production of labeled equipment or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.
- **Low Explosives** - explosive materials which are characterized by deflagration or a low rate of reaction and the development of low pressures, including, but not limited to black powder, safety fuses, igniters, igniter cords and fuse lighters.

- **Magazine** - any building, container, or structure other than an explosives manufacturing building, of approved construction used for the storage of explosive materials.
- **Maintenance** - the normal operational upkeep to prevent an UST system from releasing product.
- **Manual Shutoff Valve** - a manually operated valve in an oil supply line for the purpose of turning on or shutting off the oil supply to a burner.
- **Motor Fuel** - petroleum or a petroleum-based substance that is motor gasoline, aviation gasoline, No. 1 or No. 2 diesel fuel, or any grade of gasohol, and typically used in the operation of a motor engine.
- **Motor Vehicle** - a self-propelled motor-driven vehicle that is used for moving people or products on land, water, or air.
- **New Tank System** - a tank system that will be used to contain an accumulation of regulated substances and for which installation has commenced after 1 May 1991, or other specified date.
- **Noncommercial Purposes** - with respect to motor fuel means not for resale.
- **Oil Burner** - a device for burning oil, including boilers, furnaces, water heaters, or ranges. A burner of this type may be furnished with or without a primary safety control; and it may be a pressure atomizing gun type, a horizontal or vertical rotary type, or a mechanical or natural draft vaporizing type.
- **Oil-Burning Equipment** - an oil burner of any type together with its tank, piping, wiring, controls, and related devices and including all oil burners, oil-fired units and heating and cooking applicances.
- **On the Premises Where Stored** - with respect to heating oil means storage tank systems located on the same property, or contiguous property of the same owner, where the stored heating oil is used.
- **Operator** - any person in control of, or having responsibility for, the daily operation of the UST system.
- **OSHA** - the Occupational Safety and Health Administration.
- **Overfill Release** - a release that occurs when a tank is filled beyond its capacity, resulting in a discharge of the regulated substance to the environment.
- **Owner** -
 - in the case of a UST system in use on 8 November 1984, or brought into use after that date, any person who owns all or a portion of a UST system used for storage, use or dispensing of regulated substances, or the person owning the property on which the UST system is located
 - in the case of any UST system not in use, any person who owned all or a portion of the UST system immediately prior to the discontinuation of its use, or the person owning the property on which the UST system is located.
- **Person** - an individual, trust, firm, joint stock company, Federal agency, corporation, state, municipality, commission, political subdivision of a state, or any interstate body; also includes a consortium, a joint venture, a commercial entity, and the U.S. Government.
- **Petroleum** - crude oil, crude oil fractions, and refined petroleum fractions, including gasoline, kerosene, heating oils, and diesel fuels.

- **Petroleum Products** - gasoline, gasoline/alcohol-ether blends, aviation gasoline, automotive gasoline, kerosene, fuel oil, burner fuel oil, and diesel fuel oil.
- **Overfill Release** - Pipe or Piping - a hollow cylinder or tubular conduit that is constructed of nonearthen materials.
- **Pipeline Facilities** - including gathering lines, means new and existing pipe rights-of-way and any equipment, facilities, or buildings.
- **Place of Employment** - any location within the jurisdiction of the Department at which flammable and combustible liquid tanks, their products, and attached pumping systems are considered to be integral and indispensable parts of the place of employment or public building.
- **Primary Safety Control** - a safety control responsive directly to flame properties, sensing the presence or absence of flame, and, in the event of ignition failure or unintentional flame extinguishment, causing safe shutdown.
- **Product** - a substance stored in an underground or aboveground storage tank (AST).
- **Public Building** - any structure, including exterior parts of the building, such as a porch, exterior platform, or steps providing means of ingress or egress, used in whole or in part as a place of resort, assemblage, lodging, trade, traffic, occupancy, or use by the public or by three or more tenants.
- **Readily Accessible** - capable of being reached easily and quickly for operation, maintenance, and inspection.
- **Regulated Substance** - any flammable or combustible liquid. Any substance defined in section 101 (14) of CERCLA, excluding any substance regulated as a hazardous waste under Subtitle C, that is a flammable or combustible liquid, is a regulated substance.
- **Release** - any discharge, including spilling, leaking, pumping, pouring, emitting, emptying, leaching, dumping, or disposal of a flammable or combustible liquid into groundwater, surface water, or subsurface soils.
- **Release Detection** - determining whether a release of regulated substance has occurred from the UST system into the environment or into the interstitial space between the UST system and its secondary barrier or secondary containment around it.
- **Repair** - to restore a tank or storage tank system component that has caused a release or may cause a release of product from the UST system.
- **Secondary Containment** - a system installed around an UST that is designed to prevent a release from migrating beyond the secondary containment system outer wall in the case of a double-walled tank system or excavation area in the case of a liner or vault system before the release can be detected. Such a system may include, but is not limited to, impervious natural and synthetic liners, double-walls, or vaults.
- **Septic Tank** - a watertight covered receptacle designed to receive or process, through liquid separation or biological digestion, the sewage discharged from a building sewer. The effluent from such receptacle is distributed for disposal through the soil. Settled solids and scum from the tank are pumped out periodically and hauled to a treatment facility.
- **Storage Tank** - a separate tank that is not connected to an appliance for consumption.

- *Stormwater Collection System* - piping, pumps, conduits, and any other equipment necessary to collect and transport the flow of surface water runoff resulting from precipitation or domestic, commercial, or industrial wastewater to and from retention areas or any areas where treatment is designated to occur. The collection of stormwater and wastewater does not include treatment except where incidental to conveyance.
- *Supply Tank* - a separate tank connected directly or by pump to an appliance for consumption.
- *Surface Impoundment* - a natural topographic depression, disked area, or manmade excavation other than an injection well formed primarily of earthen materials, although it may be lined with manmade materials.
- *Tank* - a stationary device designed to contain an accumulation of regulated substances and constructed of nonearthen materials, such as concrete, steel, or plastic, that provide structural support.
- *Tank System* - a tank, connected piping, ancillary equipment, and containment system, if any.
- *Tightness Testing* - a procedure for testing the ability of a tank system to prevent an inadvertent release of any stored substance into the environment or, in the case of a UST system, intrusion of groundwater into a tank system.
- *Toxic Substance* - any substance or mixture containing a substance that is regulated by the Federal OSHA under 29 Code of Federal Regulations (CFR) 1910, Subpart Z, and that is introduced by an employer to be used, studied, or produced in the workplace, but not including any of the following:
 - any article, including but not limited to an item of equipment or hardware, which contains a substance regulated by the Federal OSHA under 29 CFR 1910, Subpart Z, if the substance is present in a solid form which does not cause any acute or chronic health hazard as a result of being handled by an employee
 - any mixture containing a substance regulated under 29 CFR 1910, Subpart Z, if the substance constitutes less than 1 percent or if the substance is an impurity, less than 2 percent of the mixture
 - any consumer product packaged for distribution to and used by the general public, for which the employee's exposure during use is not significantly greater than the consumer's exposure occurring during the principal use of the product
 - any substance received by an employer in a sealed package and subsequently sold or transferred in that package, if the seal remains intact while the substance is in the employer's workplace
 - any waste material regulated under the Federal Resource Conservation and Recovery Act (RCRA), Public Law (PL) 94-580
 - lutefisk.
- *Transfer Pump* - an oil pump, automatically or manually operated, that transfers oil through continuous piping from a supply tank to an oil-burning appliance or to an auxiliary tank and is not designed to stop pumping automatically in case of total breakage of the oil supply line between the pipe and the appliance.
- *Underground Storage Tank or UST* - any one or combination of tanks, including connected pipes, that is used to contain an accumulation of regulated substances, and the volume of which, including the volume of connected underground pipes, is 10 percent or more beneath the surface of the ground. The term does not include any of the following or pipes connected to any of the following:
 - septic tank
 - pipeline facility, including gathering lines meeting the following requirements:
 - regulated under the *Natural Gas Pipeline Safety Act of 1968*
 - regulated under the *Hazardous Liquid Pipeline Safety Act of 1979*

- an intrastate pipeline facility regulated under state laws comparable to the requirements of the law referred in above
 - surface impoundment, pit, pond, or lagoon
 - stormwater or wastewater collection system
 - flow-through process tank
 - liquid trap or associated gathering lines directly related to oil or gas production and gathering operations
 - storage tank situated in an underground area, such as but not limited to a basement, cellar, mine-working, drift, shaft, or tunnel, if the storage tank is situated upon or above the surface of the floor.
- *Underground Storage Tank (UST) System* - a UST, connected piping, underground ancillary equipment, and containment system, if any.
 - *Upgrade* - the addition or retrofit of some systems such as cathodic protection of tanks or piping, lining, or spill and overfill controls to improve the ability of a UST system to prevent the release of product.
 - *WAC* - the Wisconsin Administrative Code.
 - *Wastewater Collection System* - see *Stormwater Collection System*.
 - *Wastewater Treatment Tank* - a tank that is designed to receive and treat influent wastewater through physical, chemical, or biological means.
 - *Workplace* - any location where an employee performs a work-related duty in the course of his or her employment, except a personal residence.
 - *WSA* - the Wisconsin Statutes Annotated.

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| Applicability | Refer to Checklist Items: |
|--|--------------------------------------|
| Blasting Operations | 17-1 |
| Explosive Materials - Storage | 17-2 through 17-12 |
| Purchase, Dispensing, and Use of Flammable and Combustible Liquids | 17-13 through 17-15 |
| Petroleum Products - Storage and Transport | 17-16 and 17-17 |
| Toxic Substances - Workplace Safety | 17-18 through 17-20 |
| Approval of Tanks | 17-21 through 17-23 |
| Aboveground Storage Tanks (ASTs) | 17-24 through 17-29 |
| ASTs for Oil Burning Equipment - Inside Buildings | 17-30 through 17-33 |
| ASTs for Oil Burning Equipment - Outside | 17-34 through 17-45 |
| Bulk Plants | 17-46 through 17-52 |
| Marking of Tanks and Containers | 17-53 |
| Waste Oil Collection Points | 17-54 through 17-56 |
| Pressure Vessels | 17-57 |

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| REGULATORY REQUIREMENTS: | REVIEWER CHECKS: |
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| BLASTING OPERATIONS <p>17-1. Individuals who conduct blasting operations must have a blaster's license (ILHR 7.11(1) and (4), and 7.37).</p> | <p>Verify that each individual who prepares explosive charges or conducts blasting operations meets all of the following requirements:</p> <ul style="list-style-type: none"> - he has a blaster's license valid for the specific blasting activities he conducts - he carries a copy of his license during blasting operations - he does not delegate the work of preparing explosive charges or conducting blasting operations to a person who does not have a license, except under his direct supervision - he keeps a blasting log containing a record of each blast fired for the last 3 yr. <p>(NOTE: Licenses are issued for the specific blasting activity permitted, and are classified as follows:</p> <ul style="list-style-type: none"> - Class 1, <i>Limited or Basic</i> - Class 2, <i>Underground Blasting</i> - Class 3, <i>Surface Blasting</i> - Class 4, <i>Precision Blasting</i> - Class 5, <i>Specialized Blasting</i>.) |
| EXPLOSIVE MATERIALS - Storage <p>17-2. Installations that store explosive materials must meet specific requirements (ILHR 7.02).</p> <p>17-3. Installations that store nonexempt explosive materials must meet specific notification requirements (ILHR 7.20(1)).</p> | <p>Determine if the installation stores explosive materials other than the following, all of which are exempt:</p> <ul style="list-style-type: none"> - pyrotechnics (fireworks), including signal devices like flares and torpedoes - small arms ammunition - gasoline, fertilizers and propellant-actuated power devices or tools. <p>Verify that the installation meets all of the requirements of this Explosive Materials - Storage section for all nonexempt explosive materials.</p> <p>Verify that if the installation stores nonexempt explosive materials, it has notified the local fire department and local law enforcement agency.</p> |

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| 17-4. Installations that store nonexempt explosive materials must meet specific permit requirements (ILHR 7.04(10) and 7.20(2)). | <p>Determine if the installation stores nonexempt explosive materials in a community, that is, in a city, village or built-up inhabited area.</p> <p>Verify that the installation has obtained an explosive storage permit from the Department.</p> <p>Verify that the explosive materials are stored in a Department-approved magazine.</p> |
| 17-5. Installations that have magazines used to store nonexempt explosive materials must meet specific requirements (ILHR 7.04(1m), 7.04(24), 7.20(3), 7.204 and 7.205). | <p>Determine if the installation has magazines used to store nonexempt explosive materials.</p> <p>Verify that each magazine is Department-approved.</p> <p>Verify that each magazine is kept locked at all times when the contents are not being handled or removed.</p> <p>Verify that each magazine is under the responsibility of a person who is at least 21 yr old, who has the keys to the magazine, and who is responsible for the safe storage of explosives contained in it.</p> <p>Verify that each magazine is inspected at least once every 7 days in order to determine if there has been any attempted or successful unauthorized entry or unauthorized removal of explosive materials.</p> |
| 17-6. Magazines used to store nonexempt explosive materials must be sign-posted (ILHR 7.20(4) and 7.203(3)). | <p>Verify that a sign, printed in contrasting colors and with letters at least 3 in. high and 0.25 in. in stroke with the words: EXPLOSIVES - KEEP OFF is posted on the premises where each magazine is located.</p> <p>Verify that for all but Type 3 magazines, the signs are located so that a bullet fired directly at them will not hit the magazine.</p> <p>(NOTE: Type 3 Magazines are portable outdoor magazines used for temporary storage of explosive materials while attended.)</p> |
| 17-7. Installations that have magazines used to store nonexempt explosive materials must meet specific operating requirements (ILHR 7.212, 7.213, and 7.214). | <p>Verify that smoking, open flames, matches, and spark-producing devices are not permitted in any magazine, within 50 ft of any outdoor magazine, or within any room containing an indoor magazine.</p> <p>Verify that no single magazine contains more than 300,000 lb of explosive materials, nor more than 20 million detonators unless the Department has given its approval.</p> <p>Verify that detonators are not stored in the same magazine with other explosive materials except under one of the following conditions:</p> <ul style="list-style-type: none"> - in a Type 4 magazine, detonators that will not mass detonate can be stored with electric squibs, safety fuse, igniters and igniter cord |

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| <p>17-7. (continued)</p> | <ul style="list-style-type: none"> - in a Type 1 or Type 2 magazine, detonators can be stored with delay devices, electric squibs, safety fuse, igniters and igniter cord. <p>Verify that storage within Types 1, 2, 3, or 4 magazines meets all of the following requirements:</p> <ul style="list-style-type: none"> - explosive materials are not placed directly against interior walls and are not stored so as to interfere with ventilation (a nonsparking lattice work or other material may be used to prevent contact of the explosive materials with walls) - containers of explosive materials are kept closed, and are stored so that their labels are visible - stocks of explosive materials are stored so that they can easily be counted and checked during inspection - metal tools other than nonsparking transfer conveyors are not stored in any magazine containing high explosives. |
| <p>17-8. Indoor magazines used to store nonexempt explosive materials must meet specific requirements (ILHR 7.20(5)).</p> | <p>Verify that except for fiberboard or other nonmetal containers, containers of explosive materials are not unpacked or repacked inside a magazine, within 50 ft of a magazine, or close to other explosive materials.</p> <p>Verify that, except for the metal slitters used to open fiberboard containers, tools used for opening or closing containers of explosive materials are made of nonsparking materials.</p> |
| <p>17-9. Installations that have magazines used to store nonexempt explosive materials must meet specific housekeeping requirements (ILHR 7.215).</p> | <p>Verify that indoor magazines are located on the floor nearest ground level, within 10 ft of an outside entrance, and at least 10 ft from another magazine.</p> <p>Verify that magazines are regularly swept out and are clean, dry, and free of grit, paper, empty packages and containers and rubbish.</p> <p>Verify that the brooms and other tools used to clean and maintain magazines have no spark-producing metal parts.</p> <p>Verify that floors stained with leaking explosives are cleaned according to the explosives manufacturer's instructions.</p> <p>Verify that deteriorated explosives are destroyed according to the manufacturer's instructions.</p> <p>Verify that the area surrounding magazines is kept clear of rubbish, brush, dry grass, and trees (except for live trees more than 10 ft tall) for not less than 25 ft in all directions.</p> <p>Verify that volatile materials are at least 50 ft from any outdoor magazine.</p> |

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| 17-10. Installations that have magazines used to store nonexempt explosive materials must meet specific requirements when repairing those magazines (ILHR 7.216). | <p>Verify that before the interior of any magazine is repaired, all explosive materials are removed and the interior is cleaned.</p> <p>Verify that before the exterior of any magazine is repaired, all explosive materials are removed if there is any possibility that the repairs may produce sparks or flame.</p> <p>Verify that explosive materials that have been removed from magazines that are under repair are dealt with in one of the following ways:</p> <ul style="list-style-type: none"> - placed in other magazines appropriate to the storage of those materials - placed at a safe distance from the magazine that is under repair and guarded and protected until the repairs are complete. |
| 17-11. Installations that have magazines used to store nonexempt explosive materials must meet specific lighting requirements (ILHR 7.217). | <p>Verify that all electrical switches are located outside the magazine.</p> <p>Verify that the installation has invoices, work orders or other documents that verify that the lighting in its magazines is in compliance with state requirements.</p> |
| 17-12. Installations that have smokeless propellants or black powder must meet specific storage requirements (ILHR 7.56 and 7.58). | <p>Verify that smokeless propellants and black powder are stored in manufacturer's original shipping containers.</p> <p>Verify that if black powder and smokeless propellants are stored in the same magazine, the total quantity does not exceed that permitted for black powder.</p> |
| PURCHASE, DISPENSING, AND USE OF FLAMMABLE AND COMBUSTIBLE LIQUIDS | |
| 17-13. The purchase, dispensing, and use of flammable and combustible liquids is restricted (ILHR 10.28 (1) - (5)). | <p>Verify that Class I, II or III liquids are purchased in containers that are clearly marked with the name of the product.</p> <p>Verify that Class I flammable liquids when used in starting an engine or as fuel for a small heating appliance, lighting appliance, power tool or gasoline engine is dispensed only from an approved, properly identified safety can or screwed cover spout can approved for that specific use.</p> <p>Verify that liquids having a flash point of less than 100 °F are not dispensed into portable containers or portable tanks unless such container or tank is substantially a bright red color listed or classified by Underwriters Laboratories (UL).</p> |

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| 17-13. (continued) | <p>Verify that no kerosene, fuel oil or similar liquids having a flash point of 100 °F or more is filled into any portable container or portable tank colored red.</p> <p>Verify that repair and maintenance work involving a possible source of ignition is not performed in a room or area containing or likely to contain an ignitable mixture of hydrocarbon vapors or air.</p> <p>Verify that Class I flammable liquids are not used for degreasing or cleaning any engine, machine, equipment or part thereof, or for cleaning a floor, pit, or any part of a building or premises.</p> <p>Verify that industrial processes requiring use of Class I flammable liquids for degreasing or cleaning any engine machine or part are designed to incorporate a ventilation system to reduce and maintain vapor concentration to less than 25 percent of the lower explosive limit.</p> <p>(NOTE: The interior of closed vessels may be cleaned with Class I flammable liquids in an inert atmosphere as specified in NFPA 35).</p> <p>Verify that clothing saturated with Class I or II liquid is immediately removed.</p> <p>Verify that clothing saturated with Class I or II liquid is not worn or taken into a building where a source of ignition exists.</p> |
| 17-14. Motor vehicle fueling is restricted (ILHR 10.28 (6), 10.31). | <p>Verify that Class I flammable liquids are not dispensed from a tank vehicle into the fuel supply tank of the internal combustion engine for the tank vehicle.</p> <p>Verify that the fueling of motor vehicles is in accordance with NFPA Standards 30 and 30A.</p> <p>Verify that emergency fueling of a motor vehicle from a portable container is performed only with containers smaller than or equal to 5 gal of capacity.</p> |
| 17-15. Fuel tanks mounted on pickup trucks must meet specific standards (ILHR 10.32). | <p>Verify that tanks mounted on pickup trucks and similar vehicles:</p> <ul style="list-style-type: none"> - are constructed of a minimum 14 gauge steel with arc welded seams - have baffles installed in tanks with a capacity in excess of 100 gal - have a total aggregate capacity limited to 200 gal - are substantially a bright red color and labeled GASOLINE if storing gasoline - are substantially yellow in color and labeled DIESEL FUEL or FUEL OIL if storing diesel fuel or fuel oil - are prevented from moving by stops and anchors attached to the vehicle - are equipped with approved pumps for dispensing. |

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| 17-15. (continued) | <p>Verify that compartments in these tanks are equipped with a 2-in. approved combination fill cap and vent (anti-spill type cap).</p> <p>Verify that if a compartment of a tank holding Class I liquids is adjacent to a compartment holding Class II or Class III liquids, an air space between the compartments is provided.</p> <p>Verify that a drain is provided in the space between the compartments and that the drain is operative.</p> <p>Verify that Department of Transportation (DOT) drums are not used.</p> |
| PETROLEUM PRODUCTS - Storage and Transport | |
| 17-16. Installations that transport or receive petroleum products must meet specific recordkeeping requirements (ILHR 48.11(2) and (3)). | <p>Determine if the installation transports or receives petroleum products.</p> <p>Verify that it keeps shipping and receiving records, as well as bills of lading, way bills and other pertinent documents for at least 3 yr.</p> |
| 17-17. Installations that store petroleum products must meet specific requirements (ILHR 48.10(2)). | <p>Determine if the installation stores petroleum products.</p> <p>Verify that all containers used to store gasoline are made of metal or of other Department-approved materials, and are colored red, except for the following, all of which are exempt from this requirement:</p> <ul style="list-style-type: none"> - fuel supply tanks connected to internal combustion engines, appliances, or any other device consuming the fuel - containers having a capacity of 275 gal or more. <p>Verify that kerosene, diesel fuel, burner fuel oils, and similar petroleum products with a flash point of 100 °F (38 °C) or greater are not stored in any container colored red.</p> |
| TOXIC SUBSTANCES - Workplace Safety | |
| 17-18. Installations that use toxic substances must meet specific workplace notification requirements (WSA Section 101.581). | <p>Verify that in each workplace where installation personnel use toxic substances, the installation has posted a sign which states that the installation is required to provide, upon the request of any toxic substance handler, complete information on substance identity, hazards, safety precautions, and emergency medical treatment for each toxic substance that the handler works with or is likely to be exposed to.</p> |

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| <p>17-19. Installations that use toxic substances must meet specific recordkeeping requirements (WSA Section 101.583(1)).</p> | <p>Verify that the installation keeps material safety data sheets for each toxic substance it uses for at least 30 yr after it last receives that toxic substance in any installation workplace.</p> <p>Verify that the installation maintains a written list containing all of the following information for each toxic substance that was present in any installation workplace on or after 10 May 1984, for 30 yr after it last receives that substance:</p> <ul style="list-style-type: none"> - the identity of the toxic substance - the dates that the toxic substance was/is present in the workplace. <p>(NOTE: Toxic substances need not be included on the list if one of the following conditions is met:</p> <ul style="list-style-type: none"> - in any particular workplace, each toxic substance that is received in packages of 1 kg or less and of which no more than 10 kg is used or purchased per year for that workplace, need not be listed - a toxic substance that is a mixture containing one or more mineral dusts listed in Table Z-3 of 29 CFR 1910.1000.) |
| <p>17-20. Installations that use toxic substances must meet specific personnel education and training requirements (WSA Section 101.597).</p> | <p>Verify that all installation personnel who are assigned to workplaces where they are routinely exposed to any toxic substance, have undergone a education/training program whose content meets the requirements listed in Appendix 17-1.</p> <p>(NOTE: <i>Routinely exposed to any toxic substance</i> means exposure of at least 30 days/yr at exposure levels exceeding 50 percent of the permissible exposure level established by the Federal OSHA, or exposure exceeding 100 percent of the permissible exposure level, regardless of the exposure period.)</p> |
| <p>APPROVAL OF TANKS</p> <p>17-21. Construction, installation and operation of an AST requires approval from the Department (ILHR 10.10 (1), (2)(a), (3)(a), and 10.18 (2)(a) 2. a.).</p> | <p>Verify that plan review and written approval from the Department or its authorized deputy is obtained before:</p> <ul style="list-style-type: none"> - commencing any construction of new or additional aboveground or underground tank installation or piping installation - change in operation of an installation from storage, handling or use of flammable or combustible liquids - addition of vapor or groundwater monitoring wells - addition of leak detection - addition of spill or overfill protection - tank lining - conversion of general service stations to self-service stations - conversion to the use of key, card or code operated dispensing devices. |

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| <p>17-21. (continued)</p> | <p>Verify that plans for installation in which all tanks for the storage, handling or use of flammable or combustible liquids have an individual capacity of 5000 gal or less are submitted for review and approved in writing by the chief of the local fire department or other authorized agent.</p> <p>Verify that the plans for compliance with these groundwater protection requirements are reviewed by a certified inspector.</p> <p>Verify that installations in which one or more tanks for storage, handling or use of flammable or combustible liquid have capacity of 5000 gal or more are approved by the Department.</p> |
| <p>17-22. Revision of a plan to construct an AST must be approved by the Department (ILHR 10.105).</p> | <p>Verify that any change in the initial installation that deviates from original approved or conditionally approved plans is submitted for review as a revision, including:</p> <ul style="list-style-type: none"> - changes in tank placement - changes in size of tank - changes in length of piping run - changes in monitoring equipment. <p>(NOTE: Additions or modifications to systems after the closing of excavation and commencement of system operation are submitted for review as a new installation.)</p> |
| <p>17-23. Materials, equipment and devices for ASTs must be approved by the Department (ILHR 10.125 (1)).</p> | <p>Verify that specific approval is obtained from the Department for the following materials, equipment, devices and methods:</p> <ul style="list-style-type: none"> - the following leak detection devices: <ul style="list-style-type: none"> - volumetric tank tightness testing devices - nonvolumetric tank tightness testing devices - automatic tank gauging systems - liquid phase out-of-tank product detectors - statistical inventory reconciliation methods - pipeline leak detection systems - liners for dikes, except asphalt and concrete liners that are for impoundments around outside ASTs and are 25 percent larger than required by NFPA Standard 30 - flex connectors - any material, equipment or device not submitted for review and approval for a specific installation via the plan approval process above. |

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| ABOVEGROUND STORAGE TANKS (ASTs) 17-24. Outside ASTs must be impounded by dikes meeting specific design requirements (ILHR 10.345 (1)). Verify that the dike system for new and replacement outside ASTs has a capacity 25 percent larger than required by NFPA Standard 30 and has a way to remove rain water. Verify that drainage systems that breach the dike have self-closing valves. Verify that the walls and floors of the diking system are designed to withstand all foreseeable loading conditions including the tank load and the full hydrostatic head of any discharged liquid. Verify that the walls of the dike system are constructed of earth, steel, concrete or solid masonry. Verify that all cracks, seams and joints are sealed to be liquid-tight. Verify that dike walls and floors made of earth or other permeable materials are lined with asphalt, concrete, a synthetic or manufactured liner, or a prefabricated basin to create a barrier impervious to the stored product. Verify that liners covering the floor of the dike protect the undertank area. Verify that asphalt and concrete liners have all cracks, seams and joints sealed to prevent leakage. Verify that synthetic liners meet the following design requirements: <ul style="list-style-type: none"> - have a minimum thickness of 60 mm and are chemically compatible with the stored product - are protected by a 6 in. soil layer below the liner and a 12 in. soil layer above the liner - are installed under the supervision of a qualified representative of the manufacturer and all field-constructed seams are tested and repaired, if necessary, in accordance with the manufacturers recommendations. Verify that both soil layers are free of large rocks, angular stones, sticks or other materials that may puncture the liner. Verify that liners except for asphalt and concrete liners used under ASTs are approved by the Department for that specific type of application. Verify that prefabricated basins have floors and walls constructed of steel or rigid synthetic materials that are resistant to corrosion, puncture and cracking. | |

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| 17-24. (continued) | <p>Verify that materials used in the basin are chemically compatible with the stored product.</p> <p>Verify that a written confirmation of the compatibility from the basin manufacturer is retained at the storage facility or at the nearest local office from which the storage facility is administered.</p> <p>Verify that if multiple basins are connected to provide the capacity required above, the basins are connected in a manner that assures unrestricted transfer of product between basins.</p> |
| <p>17-25. Existing ASTs storing flammable and combustible liquids must be upgraded to meet specific design requirements (ILHR 10.345 (2)).</p> | <p>Verify that aboveground outside storage tanks that exceed 5000 gal capacity and that were installed prior to 1 May 1991, are brought into compliance with one of the following requirements by 1 May 2001:</p> <ul style="list-style-type: none"> - a dike system - an automatic release detection system - a liner (for steel tanks) - secondary containment. <p>Verify that dike systems meet NFPA Standard 30 and the diking system requirements above and either:</p> <ul style="list-style-type: none"> - have 25 percent extra capacity or a way to remove rain water - have a way to remove rain water, and drainage systems that breach the dike have self-closing valves. <p>Verify that automatic release detection systems are capable of detecting releases in the soil underneath and adjacent to the tanks meeting the leak detection requirements for underground tanks.</p> <p>Verify that steel tanks are lined and inspected periodically.</p> <p>Verify that steel tanks that are lined are upgraded in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory.</p> <p>Verify that the lining is installed by a certified tank liner in accordance with the applicable requirements for repairs to USTs and the site is assessed according to the requirements for UST.</p> <p>Verify that within 10 yr after lining, and every 5 yr thereafter, the lined tank is internally inspected and found to be structurally sound with the lining still performing in accordance with original design specifications.</p> <p>Verify that the lining is applied to the bottom of the tank and up the tank sides from the bottom to at least 2 ft above exterior grade level.</p> <p>Verify that tanks with secondary containment have a second bottom made of steel.</p> |

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| 17-25. (continued) | <p>Verify that the original bottom of the storage container is tested for leaks before the sand layer or second bottom is installed.</p> <p>Verify that a record of the test is kept on file at the storage facility.</p> <p>Verify that the newly constructed bottom is tested for leaks before any product is stored on the newly constructed bottom.</p> <p>Verify that a record of the test is kept on file at the storage facility, or at the nearest local office from which the storage facility is administered.</p> <p>Verify that the interstitial space between the primary and secondary containment is provided with an automatic release detection system or with means for visual inspection.</p> |
| 17-26. Aboveground tanks storing flammable and combustible liquids must be labeled for safety (ILHR 10.35). | <p>Verify that aboveground tanks for Class I liquids, other than at refineries, or marine, pipeline or transport terminals or waste oil storage facilities, are conspicuously labeled in letters of a contrasting color at least 5 in. high with a minimum stroke width of 1 in., with the wording FLAMMABLE - KEEP FIRE AWAY.</p> |
| 17-27. Temporarily closed aboveground tanks storing flammable and combustible liquids must meet specific safety standards (ILHR 10.36 (1)). | <p>Verify that when an AST system is temporarily closed, operation and maintenance of any corrosion protection or release detection systems is continued.</p> <p>Verify that the investigation and confirmation of suspected releases, and the response to an emergency release is continued.</p> <p>(NOTE: The operation and maintenance of a release detection system is not required as long as the aboveground tank system is empty. The tank system is empty when all materials have been removed using commonly employed practices so that no more than 1 in. of residue, or 0.3 percent by weight of the total capacity of the tank system, whichever is less, remains in the system.)</p> <p>Verify that when an aboveground tank system is temporarily closed for 3 mo or more, operators leave vent lines open and functioning and cap and secure all other lines, pumps, manways, and ancillary equipment.</p> <p>Verify that when an AST system is temporarily closed for more than 12 mo, the system is permanently closed as below unless the Department provides an extension of the 12 mo temporary closure period in writing.</p> <p>Verify that except for oil tanks used for emergency and backup fuel or overflow tanks, tank systems are considered abandoned and therefore subject to closure unless product transfers are made to or from the system periodically.</p> |

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| 17-28. (continued) | <p>(NOTE: A transfer must be made to or from a motor fuel tank at least once in any 180-day period for it to be considered in use. A transfer must be made to or from a heating oil tank at least once in any 1-yr period for it to be considered in use. Inventory records, manifests, or paid receipts for product received are acceptable to the Department as proof that transfers are being made.)</p> |
| 17-29. Tanks must be cleaned before permanent closure or a change-in-service (ILHR 10.36 (3)). | <p>Verify that the Department is notified at least 30 days prior to beginning either permanent closure or a change-in-service, unless this change is in response to corrective action.</p> <p>Verify that to permanently close an AST system, the system is emptied and cleaned by removing all liquids and accumulated sludges in accordance with API Publication 2015 - <i>Cleaning Petroleum Storage Tanks</i>.</p> <p>Verify that tanks are inerted so that the composition of the atmosphere inside the tank is 10 percent of the lower explosive limit for the stored product prior to performing any other work on the tank.</p> <p>Verify that cleaning of the tank is performed by a certified cleaner.</p> <p>Verify that if removed, removal of tanks and other portions of storage tank systems is performed by a certified remover.</p> <p>(NOTE: Continued use of an AST system to store a nonregulated substance is considered a change-in-service.)</p> <p>Verify that before a change-in-service, the tank is emptied and cleaned by removing all liquid and accumulated sludge in accordance with API Publication 2015 - <i>Cleaning Petroleum Storage Tanks</i>.</p> <p>Verify that cleaning of tanks is performed by persons certified by the Department.</p> |

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| ASTs FOR OIL BURNING EQUIPMENT - Inside Buildings 17-30. AST systems serving oil-burning equipment must meet specific design requirements (WAC pertaining to the ILHR, Chapter 10, <i>Flammable and Combustible Liquids</i> , Sections 47 and 471 (10.47, 10.471)). 17-31. Tank design for oil burning equipment must meet specific requirements (ILHR 10.472). | <p>(NOTE: Oil burning equipment installed to serve public buildings and places of employment must conform to the applicable requirements of the building code. A public building is any structure, including exterior parts of the building, such as a porch, exterior platform or steps providing means of ingress or egress, used in whole or in part as a place of resort, assemblage, lodging, trade, traffic, occupancy, or use by the public or by three or more tenants.)</p> <p>Verify that oil burning equipment installed in all locations other than public buildings and places of employment is listed by UL.</p> <p>(NOTE: Oil storage and supply systems serving oil-burning equipment must also meet the requirements for groundwater protection for heating oil USTs.)</p> |
| | <p>Verify that metal tanks are welded, riveted, and caulked, brazed, or bolted, or constructed by use of a combination of these methods.</p> <p>Verify that filler metal used in brazing is nonferrous metal or an alloy having a melting point about 1000 °F and below that of the metal joined.</p> <p>Verify that tanks are used under substantial atmospheric pressure and are built in accordance with approved standards of design.</p> <p>Verify that atmospheric tanks are built in accordance with one of the following standards:</p> <ul style="list-style-type: none"> - UL: <ul style="list-style-type: none"> - <i>Standard for Steel Aboveground Tanks for Flammable and Combustible Liquids</i>, UL 142 - <i>Standard for Steel Underground Tanks for Flammable and Combustible Liquids</i>, UL 58 - <i>Standard for Steel Inside Tanks for Oil-burner Fuel</i>, UL 80 - <i>American Petroleum Institute Standard No. 650, Welded Steel Tanks for Oil Storage</i>, Seventh Edition. <p>Verify that tanks built according to Underwriters Laboratories requirements are used only at operating pressures not exceeding 1 psig and are limited to 2.5 psig under emergency venting conditions.</p> <p>Verify that the maximum static head for tanks built in accordance with the Underwriters Laboratories requirements does not exceed 10 psig at the bottom of the tank.</p> |

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| <p>17-32. Supply tanks for oil burning equipment inside buildings that are not enclosed by fire-resistive construction must meet specific design and management requirements (ILHR 10.473).</p> | <p>Verify that storage tanks conform to one of the following requirements:</p> <ul style="list-style-type: none"> - a supply tank not larger than 10 gal specifically approved for the purpose - an approved safety can - a supply tank larger than 10 gal but not larger than 660 gal either must meet the construction requirements of Standard UL 80 or be a pressure tank built to code. <p>Verify that a supply tank is of such size and shape that it can be installed in and removed from the building as a unit.</p> <p>Verify that, for unenclosed tanks inside of any building or any one portion of a building separated from other portions by a fire wall:</p> <ul style="list-style-type: none"> - not more than six safety cans are located in any one or more stories of a building - no such safety can has an individual capacity exceeding 5 gal - a supply or storage tank located above the lowest story, cellar, or basement does not exceed 60 gal capacity and the total capacity of tanks so located does not exceed 60 gal - supply tanks are no larger than 660 gal - not more than one 660 gal tank or two tanks of aggregate capacity of 660 gal or less are connected to any single oil-burning appliance - the aggregate capacity of such tanks installed in the lowest story, cellar, or basement of a building and unenclosed does not exceed 1320 gal unless separation is provided for each 660 gal of tank capacity - the separation consists of an unpierced masonry wall or partition extending from the lowest floor to the ceiling above the tank or tanks and must have a fire-resistance rating of not less than 2 h. <p>Verify that an unenclosed supply tank of less than 10 gal is placed at least 2 ft horizontally from any source of heat either in or external to the appliance being served but in any case not located so that the temperature of the oil in the tank exceeds 25 °F above room temperature.</p> <p>Verify that an unenclosed supply tank of 10 gal capacity or larger is placed at least 5 ft from any fire or flame either in or external to any fuel-burning appliance.</p> <p>Verify that the tank does not obstruct quick and safe access to any utility service meters, switch panels and shutoff valves.</p> <p>Verify that an unenclosed supply tank is securely supported by rigid non-combustible supports to prevent settling, sliding or lifting.</p> <p>Verify that when a supply tank larger than 10 gal capacity is provided with an opening in the bottom for use as a burner supply connection or as a drain, the tank is pitched toward the opening with a slope of not less than 1/4 in. per foot of length.</p> |

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| 17-32. (continued) | <p>Verify that a shutoff valve is provided immediately adjacent to the burner supply connection at the bottom of a supply tank.</p> <p>Verify that a supply tank larger than 10 gal capacity is provided with an open-vent pipe not smaller than the size specified below and a fill pipe, both terminating outside the building.</p> <p>Verify that tanks of the following gallons of capacity have the following minimum vent pipe inside diameters of iron pipe:</p> <ul style="list-style-type: none"> - tanks of 500 gal or less capacity have vents of 1.25 in. diameter - tanks of 501 to 3000 gal capacity have vents of 1.5 in. diameter - tanks of 3001 to 10,000 gal capacity have vents of 2 in. diameter - tanks of 10,001 to 20,000 gal capacity have vents of 2.5 in. diameter - tanks of 20,001 to 35,000 gal capacity have vents of 3 in. diameter. <p>Verify that a supply tank provided with fill and vent pipes is equipped with a gauging device.</p> <p>Verify that any unused opening in a tank equipped with fill and vent pipes is enclosed vapor tight by a pipe plug or tightly screwed cap.</p> <p>(NOTE: Cross connections of two supply tanks to the same burner are acceptable. Two cross connected supply tanks may be provided with a single vent pipe.)</p> <p>Verify that vent pipes are provided with vent whistles.</p> |
| 17-33. Supply tanks for oil burning equipment installed inside buildings must meet specific design and management requirements (ILHR 10.474). | <p>Verify that a supply tank larger than 660 gal capacity is enclosed by fire-resistive construction when installed inside of a building.</p> <p>Verify that tankage inside of a building in excess of that permitted to be unenclosed by the requirements for installation of unenclosed tanks inside buildings is enclosed with fire-resistive construction.</p> <p>Verify that the enclosure for the tanks includes walls, a floor and a top and is formed from walls, partitions, floors, or floor-ceiling assemblies having a fire resistance rating of not less than 3 h with the walls bonded to the floor.</p> <p>Verify that if the walls of such enclosure extend to and are bonded to the underside of a concrete floor or roof that has a fire resistance rating of not less than 3 h, a separate top is not required for the tank enclosure.</p> <p>Verify that regardless of enclosure, a supply or storage tank located above the lowest story, cellar or basement must not exceed 60 gal capacity and the total capacity of tanks so located must not exceed 60 gal.</p> <p>Verify that all tanks installed enclosed inside a building either meet the construction requirements of Standards UL 80 and UL 142, or for pressure tanks, is built to code.</p> |

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| 17-33. (continued) ASTs FOR OIL BURNING EQUIPMENT - Outside | <p>Verify that the gross capacity of enclosed tanks in buildings of other than fire-resistive types 1 or 2 construction is not more than 10,000 gal.</p> <p>Verify that the gross capacity of enclosed tanks in buildings of fire-resistive types 1 or 2 construction is not more than 15,000 gal.</p> <p>Verify that each tank enclosure is provided with an opening protected by a self-closing listed 3 h A-label fire door assembly and a noncombustible liquid-tight sill or ramp at least 6 in. high.</p> <p>Verify that fire doors are installed in accordance with NFPA 80, <i>Standard for Fire Doors and Windows</i>.</p> <p>Verify that if the sill or ramp is more than 6 in. high, the walls to a height corresponding to the level of oil that will be retained are built to withstand the lateral pressure due to the liquid head.</p> <p>Verify that all connections to an enclosed supply tank having a capacity of more than 660 gal are made through the top of the tank, and the transfer of oil is by pump only and through continuous piping to and from consuming appliances.</p> <p>Verify that adequate ventilation of these enclosures is made prior to entering for inspection or repair of tanks.</p> <p>Verify that an enclosed supply tank is equipped with an open vent or an automatically operated vent, terminating outside the building.</p> <p>Verify that vent openings and vent pipes are of ample size to prevent abnormal pressure in the tank during filling.</p> <p>Verify that an enclosed supply tank is provided with a gauging device.</p> |
| 17-34. Installation of outside aboveground tanks not larger than 660 gal must meet specific design and management requirements (ILHR 10.475). | <p>Verify that not more than one 660 gal tank or two tanks of aggregate capacity of 660 gal or less are connected to oil-burning appliances.</p> <p>Verify that two supply tanks connected to the same burner as permitted above that are cross-connected and provided with a single fill and a single vent are on a common slab and rigidly secured, one to the other.</p> <p>Verify that a space is maintained between the tanks to prevent the rubbing of sidewalls and accumulation of debris and to allow for air circulation to reduce condensation and rust.</p> <p>Verify that tanks having a capacity of 660 gal or less are securely supported by rigid noncombustible supports to prevent settling, sliding, or lifting.</p> |

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| 17-34. (continued) | <p>Verify that the filling of a portable container from a storage tank larger than 60 gal is by means of a hand pump only.</p> <p>Verify that a shutoff valve is provided in the burner supply line immediately adjacent to the gravity feed connection of a supply tank.</p> <p>Verify that a tank not larger than 500 gal capacity is equipped with an open vent not smaller than 1 1/4 in.</p> <p>Verify that a tank not larger than 660 gal capacity is equipped with an open vent not smaller than 1 1/2 in.</p> <p>Verify that a tank is provided with a means to determine the liquid level.</p> <p>Verify that fill openings are sized and located to permit ready filling in a manner that will avoid spillage.</p> |
| 17-35. Installation of outside aboveground tanks larger than 660 gal must meet specific construction requirements (ILHR 10.476). | <p>Verify that a tank having a capacity of more than 660 gal meets construction standards for pressure vessels.</p> <p>Verify that a tank is provided with a means to determine the liquid level.</p> |
| 17-36. Outside aboveground heating oil tanks must meet specific design requirements (ILHR 10.477 through 10.481). | <p>Verify that outside aboveground heating oil tanks are located with respect to property lines, public ways and important buildings on the same property in accordance with section 2-2.1 of NFPA Standard 30.</p> <p>Verify that the shell-to-shell spacing between adjacent aboveground heating oil tanks meets section 2-2.2 of NFPA Standard 30.</p> <p>Verify that outside aboveground heating oil tanks exceeding 660 gal capacity are provided with a containment system that meets section 2-2.3 of NFPA Standard 30 and with the diking system requirements for ASTs.</p> <p>Verify that outside aboveground heating oil tanks are provided with normal venting in accordance with section 2-2.4 of NFPA Standard 30.</p> <p>Verify that emergency relief venting for outside aboveground heating oil tanks is provided in accordance with section 2-2.5 of NFPA Standard 30.</p> <p>Verify that supports, foundations and anchorage for aboveground heating oil tanks in all locations meet section 2-5 of NFPA Standard 30.</p> <p>Verify that all aboveground heating oil tanks are tested before they are placed in service in accordance with section 2-7 of NFPA Standard 30.</p> |

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| <p>17-37. Piping for aboveground tanks must meet specific design and construction standards (ILHR 10.483).</p> | <p>Verify that all piping is wrought-iron, steel or brass pipe, or brass or copper tubing.</p> <p>Verify that wall thicknesses of wrought iron and steel pipe are in accordance with design methods outlined in the <i>Standard on Wrought-Iron Pipe</i>, American National Standards Institute (ANSI) B36.10M.</p> <p>(NOTE: Listed flexible metal hose may be used to reduce the effect of jarring and vibration or where rigid connections are impracticable.)</p> <p>Verify that piping used in the installation of oil burners and appliances other than conversion range oil burners is not smaller than 3/8 in. iron pipe size or 3/8 in. outside diameter tubing may be used in the suction line of systems where the top of the tank is below the level of the oil pump.</p> <p>Verify that copper tubing has 0.035 in. nominal and 0.032 in. minimum wall thickness.</p> <p>Verify that pipes are connected with standard fittings and tubing with fittings of listed type.</p> <p>Verify that pipe connectors made of combustible materials or pipe connectors that depend upon the frictional characteristics of combustible materials are not used inside of buildings or aboveground outside of buildings.</p> <p>Verify that if used belowground outside of buildings, connectors are of listed type and installed in accordance with their listing.</p> <p>Verify that all threaded joints and connections are made tight with suitable lubricant or pipe compound.</p> <p>Verify that unions requiring gaskets or packings, right or left couplings, and sweat fittings employing solder having a melting point of less than 1000 °F are not used in oil lines.</p> <p>Verify that cast-iron fittings are not used.</p> <p>Verify that piping is substantially supported and protected against physical damage and, where necessary, protected against corrosion.</p> <p>Verify that all buried piping is protected against corrosion as specified in the requirements for the piping of USTs.</p> <p>Verify that proper allowance is made for expansion, contraction, jarring, and vibration.</p> |
| <p>17-38. Fill and return piping for aboveground tanks must meet specific design and construction standards (ILHR 10.483).</p> | <p>Verify that fill pipes terminate outside of a building at a point at least 2 ft from any building opening at the same or lower level.</p> <p>Verify that fill pipes terminate in a manner designed to minimize spilling when the filling hose is disconnected.</p> |

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| <p>17-38. (continued)</p> <p>17-39. Supply connections for aboveground tanks serving oil burning equipment must meet specific design requirements (ILHR 10.484).</p> | <p>Verify that the fill opening is equipped with a tight metal cover designed to discourage tampering.</p> <p>Verify that fill pipes are sized and located to permit ready filling in a manner that will avoid spillage.</p> <p>Verify that fill pipes are identified at their terminus as fuel oil fills.</p> <p>Verify that return lines from a burner or pump to a supply tank enter the top of the tank.</p> <p>(NOTE: Cross connections are prohibited, except between two supply tanks not exceeding 660 gal aggregate capacity, permitting gravity flow from one tank to another.)</p> <p>Verify that an auxiliary tank is filled by a pump transferring the oil through a continuous piping from the supply tank.</p> <p>Verify that an auxiliary tank is located at a level above the top of the supply tank from which it is filled.</p> <p>Verify that an auxiliary tank is provided with an overflow pipe draining to the supply tank and extending into the top of the supply tank not more than 1 in.</p> <p>(NOTE: This requirement does not apply to an auxiliary tank specifically listed for use without an overflow pipe.)</p> <p>Verify that an overflow pipe from an auxiliary tank and a return line from a burner or pump has no valves or obstructions.</p> <p>Verify that at the time an inside heating oil tank is removed or taken out of service, the fill and vent pipe are removed from the exterior of the building.</p> <p>Verify that all piping, except the burner supply line from a tank having a capacity not over 660 gal and the cross connection between two tanks having an aggregate capacity of 660 gal or less, are connected into the top of a supply tank.</p> <p>Verify that when two tanks are cross connected, the tops of the tanks are on the same horizontal plane.</p> <p>Verify that the burner supply connection to a tank having a capacity of more than 660 gal or to two or more tanks having an aggregate capacity of more than 660 gal is connected into the top of each tank.</p> <p>(NOTE: The above requirement does not apply to tanks covered below or to tanks that have valves and drip trays provided on roof-mounted units to prevent oil spillage during service.)</p> <p>Verify that external valves and their connections to the tank are made of steel.</p> |

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| <p>17-39. (continued)</p> | <p>(NOTE: A transfer pump may be used.)</p> <p>(NOTE: For commercial and industrial installations the oil supply from tanks of any capacity may be connected to an outside aboveground supply tank at a point below the liquid level, but each such connection must be provided with an internal or external shutoff valve located as close as practicable to the shell of the tank.)</p> <p>(NOTE: A transfer pump or an automatic pump may be used to deliver oil from a supply tank to a burner or to an auxiliary tank.)</p> <p>Verify that except as permitted above or below in Centralized Oil Distribution Systems, a transfer pump must not be connected to a tank having a capacity over 660 gal or to two tanks having an aggregate capacity of over 660 gal.</p> <p>Verify that the pressure at the oil supply inlet to an appliance is not greater than 3 psi unless the appliance is listed or labeled for a higher inlet pressure.</p> <p>Verify that where supply tanks are set below the level of the burner, the oil piping is laid so as to pitch toward the supply tank without traps.</p> |
| <p>17-40. Vent piping for aboveground tanks serving oil burning equipment must meet specific design and construction requirements (ILHR 10.485).</p> | <p>Verify that vent pipes are so laid as to drain toward a tank without sags or traps that can collect liquid.</p> <p>Verify that they are so located so that they will not be subjected to physical damage aboveground.</p> <p>(NOTE: Vent pipes from tanks may be connected into one outlet pipe. The outlet pipe must be at least one pipe size larger than the largest connected individual vent pipe.)</p> <p>Verify that in no case is the point of connection between two or more vent pipes lower than the top of any fill pipe opening.</p> <p>Verify that the lower end of a vent pipe enters the tank through the top and extends into the tank not more than 1 in.</p> <p>Verify that vent pipes terminate outside of buildings at a point not less than 2 ft measured vertically or horizontally from any building opening.</p> <p>Verify that outer ends of vent pipes terminate in a weather proof vent cap or fitting to be provided with a weatherproof hood.</p> <p>Verify that all vent caps have a minimum free open area equal to the cross-sectional area of the vent pipe and do not employ screens finer than 4 mesh.</p> <p>Verify that vent pipes terminate sufficiently above the ground to avoid being obstructed with snow and ice.</p> |

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| <p>17-40. (continued)</p> | <p>Verify that vent pipes from tanks containing heaters are extended to a location where oil vapors discharging from the vent will be readily diffused.</p> <p>Verify that if the static head with a vent pipe filled with oil exceeds 10 psi, the tank is designed to withstand the maximum static head that will be imposed.</p> <p>Verify that if vent pipes are not cross-connected with pipes other than vent pipes.</p> |
| <p>17-41. Aboveground tanks serving oil burning equipment must have specific gauges (ILHR 10.486 and 10.487).</p> | <p>Verify that all tanks in which constant oil level is maintained by an automatic pump are equipped with a method of determining the oil level.</p> <p>Verify that gauging devices such as liquid level indicators or signals are designed and installed so that oil or vapor will not be discharged into a building from the fuel supply system.</p> <p>Verify that inside tanks provided with fill and vent pipes used for No. 1 or No. 2 fuel oil are provided with a device to indicate either visually or audibly at the fill point when the oil in the tank has reached a predetermined safe level.</p> <p>Verify that tanks used in connection with any oil burner are not equipped with any gauge that, when broken, will permit the escape of oil from the tank.</p> <p>Verify that air and other gases are not used to pressurize tanks.</p> |
| <p>17-42. The piping and tanks of centralized oil distribution systems serving oil burning equipment must meet specific design and construction requirements (ILHR 10.488 (1) through (4)).</p> | <p>(NOTE: Oil may be fed from the supply tank or tanks by gravity or by transfer pump.)</p> <p>Verify that all distribution piping outside of diked areas is underground.</p> <p>Verify that underground piping is protected from corrosion as specified under the requirements for UST piping.</p> <p>Verify that pressurized underground piping is equipped with an automatic line leak detector and either has an annual line tightness test or is monitoring monthly.</p> <p>Verify that the capacity of a single tank or the aggregate capacity of two or more tanks supplying a centralized oil distribution system is not more than 20,000 gal except that underground tanks installed in accordance with the requirements for groundwater protection for heating oil USTs may be of any capacity.</p> <p>(NOTE: A distribution main may be connected to a tank or tanks having aggregate capacity of not more than 20,000 gal at a point below the liquid level.)</p> |

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| 17-42. (continued) | <p>Verify that when the distribution main is so connected, a readily accessible internal or external shutoff valve is installed in the main as close as practical to the tank.</p> <p>Verify that if external and aboveground, the shutoff valve and its tank connections are made of steel.</p> <p>Verify that connections between the tank and the distribution main are made with double swing joints, flexible connectors, or otherwise arranged to permit the tank to settle without damaging the system.</p> <p>Verify that such connections, when aboveground, are located within the diked area.</p> |
| 17-43. The safety equipment of centralized oil distribution systems serving oil burning equipment must meet specific design and construction requirements (ILHR 10.488 (5) through (8)). | <p>Verify that only appliances equipped with primary safety controls specifically listed for the appliance are connected to a centralized oil distribution system.</p> <p>Verify that a readily accessible manual shutoff valve is installed in each branch line that enters a building, mobile home, travel trailer, or other structure.</p> <p>Verify that this valve is either inside or outside of this structure.</p> <p>Verify that if outside, the valve is protected from weather and damage.</p> <p>Verify that if inside, the valve is located directly adjacent to the point at which the supply line enters the structure.</p> <p>Verify that a device is provided that will automatically shut off the oil supply at or ahead of the point where it enters the interior of the structure if the supply line between this device and the appliance is broken.</p> <p>Verify that this device is located on the appliance side of the manual shutoff valve required below.</p> <p>Verify that this device is solidly supported and protected from damage.</p> <p>Verify that means are provided to limit the oil pressure at the appliance inlet to a maximum of 3 psig.</p> <p>Verify that if a pressure reducing valve is to be used, it is of a type approved for this service.</p> <p>Verify that a manual-reset device is provided to shut off automatically the oil supply to the appliance if the oil pressure at the appliance inlet exceeds 8 psig.</p> |

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| 17-43. (continued) | <p>(NOTE: This shutoff device is not required when either the distribution system is supplied from a gravity tank in which the maximum level of oil (hydrostatic head) is such that the pressure in the system at the appliance inlet cannot exceed 3 psig, or when the pressure limiting device fails to regulate the pressure to not more than 3 psig, the oil supply will be automatically shut off.)</p> |
| <p>17-44. Oil distribution systems for roof-mounted or ceiling-suspended oil-fired units must meet specific design and construction criteria (ILHR 10.489).</p> | <p>(NOTE: Oil may be fed directly to the burner, directly from a tank or by means of a fuel distribution system that includes a transfer pump.)</p> <p>Verify that when fed directly from a storage tank, the fuel supply system is designed so that under normal operating conditions the burner fuel unit operates with less than 10 in. vacuum at the inlet.</p> <p>Verify that if the limitations above are exceeded, a fuel supply system incorporating a transfer pump is provided.</p> <p>Verify that the following requirements are met in fuel supply systems:</p> <ul style="list-style-type: none"> - all components, including pumps, reservoirs, valves, regulators, relief valves and controls, are listed for use with fuel oil - control and relief measures are provided to preclude pressurizing the main distribution lines 50 percent above the working pressure - no dead-ended main distribution oil lines are permitted unless measures are made for air purging - air purging lines, if they exist, are closed by plugs or caps when not actually in use - means are provided to limit the oil pressure at the burner inlet to a maximum of 3 psig - if a pressure reducing valve is used, it must be a type approved for the service. <p>Verify that the capacity of a single tank or the aggregate capacity of two or more tanks supplying a distribution system for roof-mounted or ceiling-suspended oil-fired units is not more than 20,000 gal.</p> <p>(NOTE: Underground tanks installed in accordance with the requirements for groundwater protection for heating oil USTs may be of any capacity.)</p> <p>Verify that if required by design, individual supply tanks such as auxiliary or day tanks connected to burners meet the following requirements:</p> <ul style="list-style-type: none"> - are located above the lowest story, cellar, or basement and do not exceed 60 gal capacity and the total capacity of tanks so located does not exceed 60 gal - are filled by a pump transferring the oil - are filled through continuous piping from the supply tank located at a level above the top of the supply tank from which it is filled - are provided with an overflow pipe draining to the supply tank and extending into the top of the supply tank not more than 1 in. |

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| 17-44. (continued) | <p>(NOTE: This requirement does not apply to an auxiliary tank specifically listed for use without an overflow pipe.)</p> <p>Verify that overflow pipes from auxiliary tanks and return lines from burners or pumps have no valves or obstructions.</p> <p>Verify that valves and drip trays are provided on roof-mounted units to prevent oil spillage during service.</p> <p>Verify that a readily accessible and identified manual shutoff valve is installed in each branch line that serves an individual burner and in the oil distribution line.</p> <p>Verify that if this valve is outside of a protective enclosure, this valve is protected from weather and damage.</p> <p>Verify that if this valve is inside of a protective enclosure, the valve is located directly adjacent to the point at which the supply line enters the protective enclosure.</p> <p>Verify that only appliances equipped with primary safety controls specifically listed for the appliance are connected to a distribution system for roof-mounted or ceiling-suspended oil-fired units.</p> <p>Verify that a switch in the electrical supply to the transfer pump is provided.</p> <p>Verify that this switch is capable of being locked in the open position and is at a convenient location so the fuel supply system can be shut down for maintenance.</p> <p>Verify that the shutdown of the fuel supply system does not interrupt the electrical supply to these units.</p> |
| 17-45. Pipes must be tested to meet specific requirements (ILHR 10.49). | <p>Verify that after installation and before being covered, piping is tested for leaks.</p> <p>Verify that piping is tested hydrostatically, or with equivalent air pressure, at not less than 1 1/2 times the maximum working pressure but not less than 5 psi at the highest point of the system.</p> <p>Verify that the test is made so as not to impose a pressure of more than 10 psi on the tank.</p> <p>Verify that this test is maintained for at least 30 min or for sufficient time to complete visual inspection of all joints and connections.</p> <p>(NOTE: Instead of a pressure test, suction lines may be tested under a vacuum of not less than 20 in. maintained for at least 30 min.)</p> |

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| 17-45. (continued) | Verify that when the vertical length of the fill and vent pipes is such that when filled with liquid the static head imposed exceeds 10 psi, the piping is tested hydrostatically to a pressure equal to the static head thus imposed. |
| BULK PLANTS | |
| 17-46. Existing bulk plants are exempt from the following requirements (ILHR 10.37 (1)). | (NOTE: Existing bulk plant facilities with clearances less than those specified in NFPA Standard 30 may be renovated or updated, but no additional storage capacity is permitted in violation of those specified clearances.) |
| 17-47. Connections to tanks inside buildings must meet specific design standards (ILHR 10.37 (2)). | Verify that each connection to a tank inside a building through which liquid can normally flow is provided with an internal or an external valve located as close as practical to the shell of the tank. |
| | Verify that external valves and their connections to the tank are of steel except when the chemical characteristics of the liquid stored are incompatible with steel. |
| | Verify that when materials other than steel are necessary, they are suitable for the pressures, structural stresses and temperatures involved, including fire exposure. |
| 17-48. Specific valves must be installed (ILHR 10.37 (3) through (5)). | Verify that flammable or combustible liquid tanks located inside buildings are provided with an automatic closing heat-actuated valve on each withdrawal connection below the liquid level to prevent continued flow in the event of fire in the vicinity of the tank. |
| | (NOTE: Connections for emergency disposal do not have to meet the above requirement. Flammable or combustible liquid tanks in one-story buildings designed and protected for flammable or combustible liquid storage do not have to meet the above requirements.) |
| | Verify that heat-activated valves specified above are incorporated in or located adjacent to the valves required inside buildings. |
| | Verify that manual openings, if independent of the fill pipe, are provided with a vapor-tight cap or cover. |
| | Verify that each opening is protected against liquid overflow and possible vapor release by means of a spring-loaded check valve or other approved device. |
| 17-49. Specific fill pipes must be installed (ILHR 10.37 (6) through (8)). | Verify that for Class IB and Class IC liquids other than crude oils and asphalts, the fill pipe is so designed and installed as to minimize the possibility of generating static electricity by terminating within 6 in. of the bottom of the tank. |

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| 17-49. (continued) | <p>Verify that the fill pipe inside of the tank is installed to avoid excessive vibration of the pipe.</p> <p>Verify that the inlet of the fill pipe is located outside of buildings at a location free from any source of ignition and not less than 5 ft away from any building opening.</p> <p>Verify that the inlet of the fill pipe is closed and liquid-tight when not in use.</p> <p>Verify that the fill connection is properly identified.</p> <p>Verify that the fill pipe is removed when the tank is disconnected or removed.</p> |
| 17-50. Tanks inside buildings must meet specific design requirements (ILHR 10.37 (9) and (10)). | <p>Verify that tanks inside buildings are equipped with a device, or other means, to prevent overflow into the building.</p> <p>Verify that inside storage tanks for Class III combustible liquids are provided with draw-off or drain openings.</p> <p>Verify that tanks are installed so that the bottom pitches to the draw-off or drain openings at a slope of not less than 1/4 in./ ft of length.</p> <p>Verify that the draw-off or drain opening is provided with suitable connection to provide a sump from which water or sediment can be readily drained.</p> |
| 17-51. Piping must be color coded (ILHR 10.38). | <p>Verify that all piping at bulk plants is identified by the following standard color coding:</p> <ul style="list-style-type: none"> - leaded gasoline: <ul style="list-style-type: none"> - highest octane . . . red circle with the word GAS - mid-grade octane . . . blue circle with the word GAS - lowest octane . . . white circle with the word GAS - unleaded gasoline: <ul style="list-style-type: none"> - highest octane . . . red circle with white cross and the word GAS - mid-grade octane . . . blue circle with white cross and the word GAS - lowest octane . . . white circle with black cross and the word GAS - diesel fuel . . . yellow hexagon with the word DIESEL - #1 fuel oil . . . purple hexagon with yellow stripe and the words #1 OIL - #2 fuel oil . . . green hexagon with the words #2 OIL - kerosene . . . brown hexagon with the word KEROSENE. <p>Verify that products containing extenders such as ethanol are designated by the addition of a border around the symbol, black around white symbols and white around other color symbols.</p> |

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| 17-51. (continued) | <p>Verify that gasohol is designated with the word GASOHOL as well.</p> <p>Verify that vapor recovery connections and manholes are marked with orange circles and the word VAPOR.</p> <p>Verify that observation and monitoring wells are marked with a black triangle on a white background.</p> <p>Verify that wells are provided with a durable label warning against the accidental or intentional introduction of petroleum products into them.</p> <p>Verify that the product identification is accomplished by the use of a disc type tag of nonsparking material, not less than 6 in. diameter bearing the color code and the name of the product.</p> <p>Verify that tags are permanently affixed to the valve at the unloading riser, the pump control valves, the valve of a storage tank and load rack and on the product pipe lines in at least three locations equally spaced between terminating points or valves.</p> |
| 17-52. The grounds must be maintained (ILHR 10.39). | <p>Verify that plant and tank yards are kept free from weeds, high grass, rubbish and litter, and are kept neat, clean and orderly throughout.</p> |
| MARKING OF TANKS AND CONTAINERS 17-53. Tanks and containers must be specifically marked (ILHR 10.46). | <p>Verify that tanks and containers for the storage of flammable and combustible liquids aboveground are conspicuously marked with the name of the product that they contain and FLAMMABLE--KEEP FIRE AND FLAME AWAY.</p> <p>Verify that tanks of 60 to 1100 gal capacity installed in accordance with the requirements for small tanks bear the additional marking KEEP 40 FEET FROM BUILDINGS.</p> |
| WASTE OIL COLLECTION POINTS 17-54. New and replacement aboveground waste oil collection points must meet design standards (ILHR 10.33 (1)). | <p>Verify that tanks located outside and exceeding 1000 gal in capacity are at least 20 ft from any building or combustible structure.</p> <p>Verify that tanks are equipped with an approved vent pipe and fill opening.</p> <p>Verify that the vent pipe size meets NFPA Standard 30.</p> |

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| 17-54. (continued) | <p>Verify that the fill opening is located in a waterproof enclosure of non-combustible construction and is screened to prevent the passage of solid objects into the tank.</p> <p>Verify that the tank is placed in the center of a dike that conforms to the requirements for dikes around ASTs.</p> <p>Verify that the fill opening is located within the diked area.</p> <p>Verify that a permanent sign, of durable material, is installed at the waste oil collection point, including NOTICE - WASTE OIL COLLECTION ONLY, NO SMOKING.</p> <p>Verify that tanks are protected from vehicle impact by a barrier that is located at least 24 in. away from the tanks, capable of withstanding a minimum horizontal live load of 1000 lb/linear foot acting at 18 in. above grade level.</p> <p>(NOTE: Dikes, fences and enclosures may be used to provide vehicle collision protection if they meet the above requirements.)</p> |
| 17-55. New and replacement underground waste oil collection points must meet design standards (ILHR 10.33 (2)). | <p>Verify that tanks meet NFPA Standard 30 and all other requirements for underground tanks.</p> <p>Verify that the fill opening is located in a waterproof enclosure of non-combustible construction and is screened to prevent the passage of solid objects into the tank.</p> |
| 17-56. The management of used internal combustion engine crankcase oil must meet specific standards (ILHR 10.335). | <p>(NOTE: Used internal combustion engine crankcase oil will hereafter be referred to as used oil.)</p> <p>Verify that used oil is treated as a Class I liquid unless testing indicates that a different classification is applicable.</p> <p>Verify that testing is performed on a batch-wide basis in accordance with closed cup test methods according to the American Society for Testing and Materials (ASTM) published standards and that records of testing are maintained onsite and available for inspection.</p> <p>Verify that used oil stored in tank inside buildings is stored at or above grade.</p> <p>Verify that tanks larger than 60 gal capacity are located in buildings at the lowest story, cellar or basement.</p> <p>Verify that tanks or barrels with individual capacity of more than 300 but less than or equal to 660 gal and with aggregate capacity of 1320 gal or less are located in an enclosure.</p> <p>(NOTE: These tanks will be known as regulated tanks.)</p> |

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| <p>17-56. (continued)</p> <p>Verify that doors of the enclosure are protected by liquid-tight sills or ramps capable of containing the largest likely spill or a drainage system to a remote tank or catchbasin.</p> <p>Verify that tanks exceeding 660 gal individual capacity or exceeding 1320 gal aggregate capacity in an individual building or in a section of a building separated by fire walls are installed in an enclosure constructed as follows:</p> <ul style="list-style-type: none"> - floors, walls and ceilings of 4 h fire-resistive rated construction - walls bonded to floor and ceiling - openings protected by 3 h labeled fire door assemblies and liquid-tight sills or ramps capable of containing the largest likely spill or a drainage system to a remote tank or catchbasin. <p>(NOTE: These tanks will also be known as regulated tanks.)</p> <p>Verify that the nominal gross capacity of tanks located in buildings of types one and two fire-resistive construction does not exceed 15,000 gal.</p> <p>Verify that the nominal gross capacity of tanks located in buildings of any class of construction does not exceed 50,000 gal, with an individual tank capacity not exceeding 25,000 gal provided these tanks are located in a 2 h rated fire-resistive or detached room and are cut off both vertically and horizontally from the remainder of the building in a manner acceptable to the Department or its authorized deputy.</p> <p>Verify that buildings in which tanks of more than 300 gal capacity are located are protected by an automatic fire detection system that is designed, installed and maintained in accordance with NFPA Standard 72E.</p> <p>Verify that tank enclosures required for regulated tanks have a dry chemical suppression system designed to totally flood the tank enclosure, that is designed, installed and maintained in accordance with NFPA Standard 17.</p> <p>Verify that tank enclosures required for regulated tanks have doors protecting the tank enclosure that are normally kept closed or are held open with automatic hold-open devices designed to close the door upon activation of the dry chemical suppression system.</p> <p>Verify that tank enclosures required for regulated tanks are not used for purposes other than flammable and combustible liquid storage.</p> <p>Verify that the design, construction and venting of tanks for storage inside buildings of used oil meet sections 2-4.2 to 2-4.4 of NFPA Standard 30 as it applies to Class I liquid storage.</p> <p>Verify that the bottom of the tank is not more than 36 in. above the floor.</p> <p>Verify that vents terminate outside the building.</p> | |

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| <p>PRESSURE VESSELS</p> <p>17-57. Tanks used as pressure vessels must meet design restrictions (ILHR 10.34).</p> | <p>Verify that tanks used as pressure vessels are constructed of steel and meet the applicable requirements of the Wisconsin pressure vessel codes.</p> |

Appendix 17-1

Education/Training Programs For Toxic Substance Handlers

(Source: WSA Sections 101.597(5)(a) and (b))

Part A. For personnel who usually work with a large number of toxic substances which are received in packages of 1 kg or less, and of which no more than 10 kg are used or purchased per year, the training program must include all of the following for each toxic substance:

- the trade name, generic or chemical name and commonly used synonym for the substance and for each of its major components
- the nature of the hazards posed by the substance
- general precautions to be taken when handling or coming into contact with the substance.

Part B. For all other personnel, the training program must include all of the following for each toxic substance:

- the trade name, generic or chemical name and commonly used synonym for the substance and for each of its major components
- the location of the substance
- the symptoms of acute or chronic overexposure to the substance
- the potential for flammability, explosion and reactivity
- proper conditions for safe use and exposure to the substance
- special precautions to be taken and personal protective equipment to be worn or used, if any, when handling or coming into contact with the substance
- procedures for handling, cleanup and disposal of toxic substances leaked or spilled.

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